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PROCEEDINGS

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PATERNOSTER ROW.

ment of the components of the tissues in different animals, but also in minor modifications in the teeth of the same animal.

My inquiries were first directed to human teeth; the results, both as regards structure and development, were published in my 'Lectures on Dental Physiology and Surgery,' 1838. The teeth of marsupial animals next occupied my attention. In this order it was found that the dentinal tubes are continued into and form a considerable portion of the enamel, excepting only in the Wombat. The results of these investigations will be found in the Second Part of the 'Philosophical Transactions' for 1849.

By the help of this Society I have been enabled to make an extensive series of investigations in the teeth of the Order Rodentia, with results which have far exceeded my expectations. Each family, as arranged by Mr. Waterhouse, has its peculiar structure of enamel, an account of which, with illustrations, is published in Part 2 of the 'Philosophical Transactions,' 1850.

Having, by way of preface, given a very cursory and imperfect indication of what has been done in dental structure, or rather of what has been recognised as peculiar to certain groups of mammalian animals, in order to show that the subject is not without importance, I shall proceed to lay before the Society certain peculiarities which I find exist in the teeth of the two Tapirs, and which are, to the best of my belief, confined to those creatures. It should however be understood, that similar conditions may be found in the teeth of other animals, but at present I believe they have not been seen. I have myself examined numerous examples from each of the mammalian orders, and from the great majority of the genera, and have failed to find a condition of dentine similar to that of the Tapir's tooth. Under these circumstances, it may, I think, be fairly assumed to be characteristic of those animals, and hence has a degree of importance which it otherwise would not possess. With this impression, I have thought it desirable that the facts should be recorded.

The dentine of the molar teeth, when exposed by making a longitudinal section through the centre of the crown and fangs, and reducing it sufficiently thin to be viewed by transmitted light, is seen to be composed of tubes which pursue a uniform course. Those which are destined to reach the highest parts of cusps or ridges pursue a straight course, subject to slight undulations, while others, which pass to the sides of the cusps, are turned in the latter part of their course away from the central line of the cusps or ridges; others again, which pass to the lowest points of the depressions on the masticating surface of the tooth, follow a tolerably straight course. The dentine which forms the sides of the tooth is occupied by tubes which in the outer third of their course describe a bold curve outwards, the convexity of which is directed towards the crown of the tooth, but on approaching the enamel turns a little upwards. In the fangs of the teeth, the dentinal tubes, in addition to describing a double curve, are subject to strongly-marked secondary undulations. The dentinal tubes, as they leave the pulp-cavity for the crown of the tooth, have a diameter of about the 7500th of an inch, which is gradually diminished to the 15,000th. When within a short distance of the enamel, they suddenly dilate into a more or less oval cell, from which a few very minute tubes pass off towards the line of junction of the enamel and dentine. The bulbous terminations of the tubes are more constant and larger about the prominences of the cusps, and diminish in size and frequency on the sides of the tooth, where the enamel becomes thin, at the termination of which they altogether cease. The bulbs have an average diameter of about 3450, and are in length about the 1000th of an inch. In addition to the terminal dilatations, the coronal tubes are subject to occasional dilatations in their course. It is by no means uncommon to find instances where a peripheral layer of cells lies underneath the enamel, into which the dentinal tubes pass, and through which an anastomosis is effected; but in no other teeth save those of the Tapir do the coronal tubes terminate in well-marked and uniform cell-like dilatations having distinct parietes. I have pointed out several examples, in my paper on the teeth of Rodentia, in which these peripheral cells are found, but they are irregular in shape, have not distinct parietes, and are entered by the ultimate branches of the dentinal tubes; whereas in the Tapir the cells are formed by the expansion of the tubes, which previous to the expansion give off few if any branches. Some however subdivide once or twice in their course; in which case the smaller of the divisions do not commonly dilate into terminal cells, but form anastomoses with other tubes similarly circumstanced.

In the fangs the dentinal tubes leave the pulp-cavity with a diameter of the 7500th of an inch, and speedily dilate to the 6000th. During the greater part of their course they give off very minute, hair-like, short branches; but when near their termination they increase in size, turn a little upwards towards the crown of the tooth, and send out numerous branches, the majority of which pass from the lower sides of the tubes. The ultimate branches pass into the granular tissue, which, interspersed with irregular cells, forms the outer part of the dentine of the fangs. Near the neck of the tooth the granular dentine exists as a thin layer, which becomes thickened and more opake from the greater number of cells in the lower part of the fang.

Partially obliterated vascular canals enter from the surface of the fang, and proceed in straight lines through the dentine to the pulp-cavity. In the Indian species similar vascular canals proceed from the pulp-cavity towards the ridges of the masticating surface, and appear to terminate in loops. They have a diameter of about the 1000th of an inch. In a molar tooth of the American Tapir, for which I am indebted to the Society, vascular canals do not exist in the crown. This difference will, if found to be constant, serve to distinguish the molars of the two species. Near the extremities of the fangs the dentine graduates insensibly into the granular condition, and this again into the cementum, without offering any generic peculiarities.

The cementum is in no part of the fang very abundant, as compared with the amount which is found in the teeth of many other animals. Near the neck of the tooth it is arranged in minute rods or columns, similar to that which I have described as existing in the teeth of many Rodents. In this situation it is destitute of lacunæ; but in tracing it downwards towards the root of the tooth, where it is increased in quantity, lacunæ possessing the usual characters are found. In addition to the lacunæ the cementum is traversed in parts by ill-defined canaliculi, which proceed from the surface of the fang in tolerably straight lines.

In tracing a longitudinal section of a molar tooth downwards from the crown to the end of the fang, it will be seen that at places the dentine has been removed and the space filled up with cementum. Here and in other parts the cementum is abundantly supplied with vascular canals.

The enamel does not differ in any material points from that of the teeth of Ruminants. The fibres have a minutely granular appearance and have a diameter of about the 5000th of an inch. On the sides of the tooth they pursue an outward course, and make one bold curve, the convexity of which is directed towards the masticating surface, while on the crown of the tooth their course is waved and irregular; an arrangement which no doubt adds much to the strength of the tissue in that part where the greatest strength is required.

In the incisor teeth similar peculiarities may be observed, but they are much less strongly marked than in the molar teeth. Vascular canals are, too, of less frequent occurrence in the incisor teeth.

I hope on a future occasion to be enabled to lay before the Society a statement of the peculiarities which pertain to and are characteristic of other groups of animals.

2. DESCRIPTION OF A NEW GENUS OF GORGONIADÆ.

BY J. E. GRAY, ESQ., F.R.S., P.B.S. ETC.

(Radiata, Pl. III.)

The Coral here described was sent to me by Sir John Richardson.

It is nearly allied to *Gorgonia*, but the branches are erect, clavate, and very rarely subdivided. The bark is very thick, formed of numerous close diverging cells radiating round a very thin, small, black compressed axis, each of the cells ending in a conical prominent tubercle closely covered externally with red calcareous spicula. The expanded base and the base of the stem and the interspaces between the cells are covered with smaller red calcareous granules.

This genus may be named and characterized thus:—

GONIGORIA.

Coral clavate, slightly branched; the root dilated; axis horns black, compressed, thin; bark thick, calcareous, covered with conical tubercles, each covered externally with numerous close red spicula.

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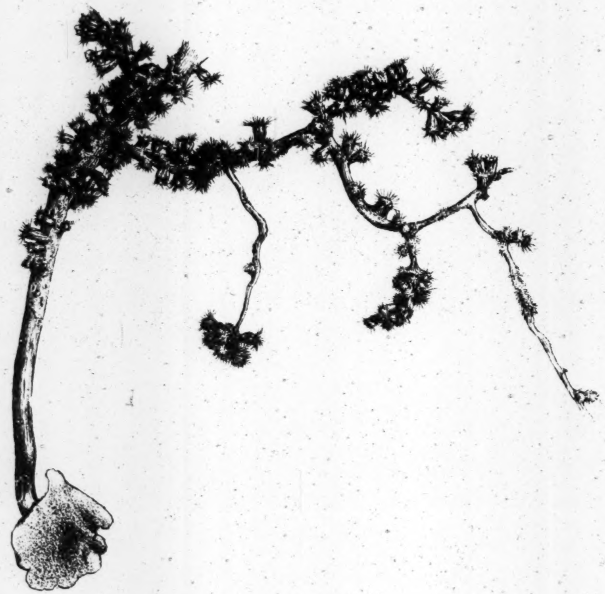

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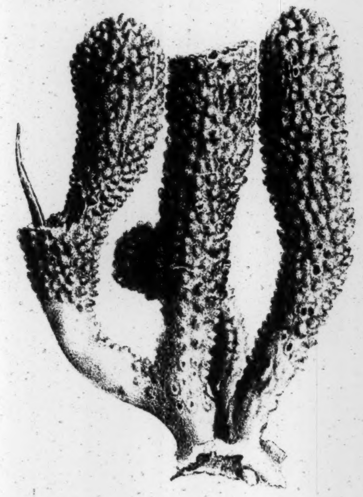


1 Conigoria clavata. Gray   2 Nidalia occidentalis. Gray.

G H Ford Lith

Ford & West Imp

GONIGORIA CLAVATA. (Radiata, Pl. III. fig. 1.)

Coral clavate, rounded at the end, simple, or rarely forked.

Hab. ——?

The coral is almost two inches high, and the thickest part is about one-third of an inch in diameter.

I take this opportunity of presenting a figure of another Coral, which, although described by me several years since, has not yet been engraved.

NIDALIA OCCIDENTALIS, Gray, Proc. Zool. Soc. 1835, p. 60. (Radiata, Pl. III. fig. 2.)

Hab. West Indies, Montserrat.

3. DESCRIPTION OF A NEW GENUS OF BIVALVE SHELLS, AND A SEA EGG, FROM NEW ZEALAND.

BY J. E. GRAY, ESQ., F.R.S., P.B.S. ETC.

Mr. Richard Taylor, of Wanganui, New Zealand, has kindly sent to the British Museum a series of marine and freshwater shells, collected by him in 1847. Among many other interesting specimens is one which combines the form and internal appearance of a *Solen* with the hinge-characters of a *Mactra*, and evidently forming the type of a genus not hitherto observed. It may be thus named and characterized:—

VANGANELLA.

Shell equivalve, oblong, transverse, thin, compressed, rounded behind, rather produced and tapering in front, covered with a thin, hard, polished periostraca; the inner surface of each valve straight, with two diverging, thickened ribs just within the stars of the abductor muscles, which are large and far apart, and the upper front edge of the valve double; siphonal inflection short, broad; hinge-tooth of left valve folded together, moderate; of right valve small, separate; lateral teeth short, small, close to hinge-tooth of left valve double; the ligament small, just within the cardinal edge, not separated by any shell plate from the cartilage, and partly hidden from view by the upper edge of the hinge-margin; the cartilage very large, inclosed in a large, elongate, shallow, triangular pit on the upper part of the hinder internal rib.

The position of the cartilage-pit and the internal ribs at once separate this genus from *Spisula*.

VANGANELLA TAYLORII.

Shell rather compressed, white, smooth, covered with a pale brownish-white polish; periostraca darker coloured on the upper part of the front edge; the upper hinder slope irregularly wrinkled with periostraca.

Hab. New Zealand.

ARACHNOIDES ANTIPODARUM.

Body rather convex, with five broad sunken grooves, rather more than one-third the width of the sections of the body, and forming inflexed spaces on the edge of the circumference; ambulacra nearly straight, and regularly diverging, without any isolated pores between the end of the ambulacra and the circumference of the body.

Hab. New Zealand. Coast of Wanganui.

This species is easily known from the *A. placenta* of the North Sea (Agassiz, Monog. t. 21. fig. 25–42) by its being rather larger and considerably more convex, and in the grooves edged above by the ambulacra being broader compared to the sections of the shell. It differs also in having the ambulacra nearly straight and without any isolated pores between them, as in the edge of the shell figured by Agassiz, t. 21. f. 39.

The specimen was unfortunately broken in the carriage from New Zealand, and the part of the shell containing the ovarial pores was destroyed.

The upper and lower part of the shell is supported by compressed perpendicular columns, about one-third the width of the disk; near the oral disk there are placed five pairs of short processes for the support of the jaws; the jaws are triangular; they agree, as does the disposition of the spire, tubercle, and all the other external characters, with the northern species as figured by Agassiz from the specimen in the Museum collection.

4. REMARKS ON THE GENUS HAPALOTIS.
BY JOHN GOULD, F.R.S.

With the view of correcting some errors respecting the members of the genus *Hapalotis*, and of describing two new species, Mr. Gould exhibited an extensive series of specimens, including several species of this curious form of Rodent, from his own collection: viz.—

1. **HAPALOTIS ALBIPES**, Licht.

2. **HAPALOTIS APICALIS**, Gould, n. s.

This new species is about the size of, and similar in colour to, *H. albipes*, but it has larger ears, and its feet, which are perfectly white, as in that animal, are much more delicately formed, and the tail is nearly destitute of the long brushy hairs towards the tip; the eye is also much smaller.

Face and sides of the neck blue-grey; upper part of the head, space between the ears, the ears and upper parts of the body, pale brown interspersed with numerous fine black hairs; under surface white; flanks mingled grey and buffy white; fore feet white, with an oblique mark of dark brown separating the white from the greyish brown of the upper surface; hinder tarsi and feet white; basal three-fourths of the tail brown, apical fourth thinly clothed with white hairs.

	inches.
Length from the tip of the nose to the base of the tail	8
——— of the tail	8½
——— of the tarsus and toes	1¾
——— from the tip of the nose to the base of the ears	1¾
——— of the ears	1⅛

3. HAPALOTIS HIRSUTUS, Gould.

Mus hirsutus, Gould in Proc. Zool. Soc. part x. 1842, p. 12.

Since this singular species was brought from Port Essington by Mr. Gilbert, at the close of 1841, a second and more perfect individual, also from the northern coast of Australia, has been deposited in the British Museum.

This is the largest species of the genus.

4. HAPALOTIS CONDITOR, Gould in Sturt's Narr. of Exp. to Central Australia, vol. i. pl. in p. 120; vol. ii. App. p. 7.

5. HAPALOTIS LONGICAUDATUS, Gould, Proc. Zool. Soc. part xii. p. 104.

6. HAPALOTIS GOULDII, Gray, App. to Grey's Trav. in Australia, vol. ii. pp. 404, 413; List of Mamm. in Brit. Mus. Coll. p. 116.

H. Richardsonii, Gray, on specimens in Brit. Mus.
H. macrotis, Gray, on specimens in Brit. Mus.
H. Mitchellii, Gould, Mamm. of Australia, part i. pl. 15.
Hab. Western and Southern Australia.

7. HAPALOTIS MURINUS, Gould, Proc. Zool. Soc. part xiii. 1845, p. 78.

Hab. South Australia and the Liverpool Plains in New South Wales.

8. HAPALOTIS CERVINUS, Gould, n. s.

The whole of the head, upper surface and sides of the body, of the most delicate fawn colour, interspersed with numerous fine black hairs on the head and back; whiskers greyish black; nose and under surface white; tail pale brown, lighter beneath; ears very large, somewhat pointed, and nearly destitute of hairs.

	inches.
Length from the tip of the nose to the base of the tail	4½
——— of the tail	5½
——— of the tarsus and toes	1¼
——— from the tip of the nose to the base of the ears	1⅛
——— of the ears	1⅛

This beautiful species was brought from the interior of South Australia by Captain Sturt. It is one of the smallest members of the genus, and is remarkable for the delicacy of its colouring and for the large size of its tail in comparison with that of its body.

5. NOTE ON A NEW SPECIES OF FRANCOLIN.

BY DR. NICHOLSON, H.E.I.C. MEDICAL SERVICE.

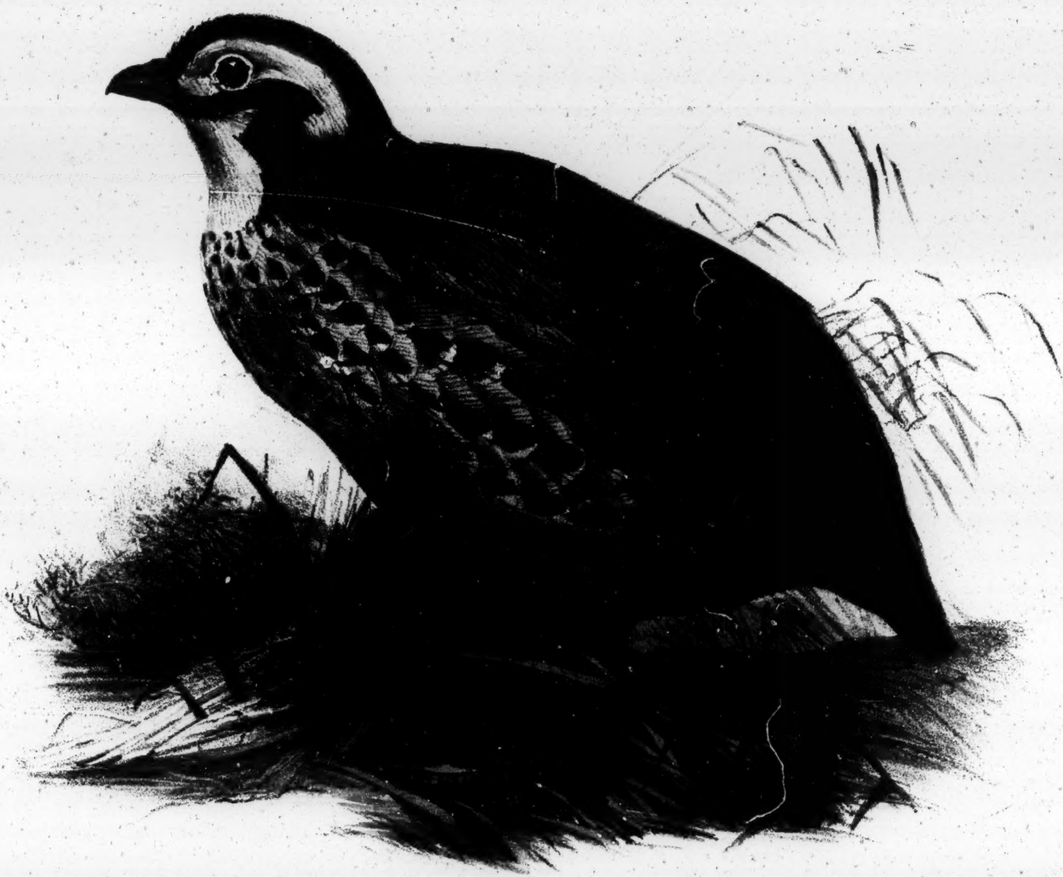
(Aves, Pl. XL.)

While in Arabia in February 1836, I proceeded into the interior as far as the town of Moosa, about twenty miles to the eastward of Mocha in Yemen, accompanied by Captain Bull of the Indian Navy, in quest of plants and other objects of natural history, as well as with the view of seeing the country. Having delivered our introduction to the chief of that district, he assigned us quarters in his palace and appointed an Arab huntsman to attend us—as well to show us game, as to be a guardian to our persons. We started at daylight, mounted on asses, and pursued our course to the eastward for about six miles, when at the foot of a range of hills, in a jungle of *Acacia arabica*, we came on several large coveys of guinea-fowl. We soon found that it was of no use to attempt to get a shot by walking after them, as they soon left us; so we followed, and whenever they entered a thick piece of jungle we ran up in time to get a shot at them, being pressed to take wing. In this way we made a very good bag, to which we afterwards added a bustard (differing from the Indian) and several small hares, which were very abundant. At the first shot I brought down, as I supposed, a couple of guinea-fowl, right and left, but on picking them up found that one of them was a fine species of Francolin, coloured as in the accompanying sketch.

Bill and legs coral-red, the latter with blunt knobs for spurs; the top of the head, a line under the eye from the angle of the mouth, and a patch below it, black; round the eye and some way down the neck, buff; breast and side covered with large patches of black, buff, and light blue or french-grey; all the back and other parts french-grey; the quills are light buff.

This magnificent bird we found afterwards in pairs, betraying the same habits as the two species of Francolin in India, the male often standing and crowing on some small eminence. These birds are fully as large as the gallina, which is not quite so large as the domesticated species, but as large as a good-sized fowl.

I propose for this bird the name of *Francolinus yemensis*.



J. Wolf. lith

M. & N. Hanhart, Impᵗ

FRANCOLINUS YEMENSIS, *Nicholson*.

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May 13, 1851.

John Edward Gray, Esq., F.R.S., in the Chair.

The following papers were read:—

1. Observations on the Eye of the Mole, in a letter addressed to W. Spence, Esq., F.R.S.

By John Davy, M.D., F.R.S.

In a letter with which you favoured me some weeks ago, you made mention of Schiödte's 'Faunæ Subterraneæ Specimen,' and of the interesting discoveries described in it of several species of eyeless animals, the inhabitants of caves into which the sun's rays never penetrate, and where, in utter darkness, visual organs would consequently be useless.

Reflecting on the subject, I thought it worth while to examine with some care the eyes of the common Mole, an animal that spends the greater portion of its time beneath the surface of the earth, and seems in its general organization specially adapted for a subterraneous life.

I shall chiefly notice what, in the dissections I have made, appears to be peculiar.

The first peculiarity that arrests attention is, that the eyes of the Mole are not contained in bony sockets, but lie unprotected by any bony prominences in the cellular tissue, beneath the common integuments; and, in consequence, were this animal an extinct one, and its skeleton found in a fossil state, there being no orbit, the palæontologist might be led to infer that it is a species destitute of eyes.

The next peculiarity I would mention is in regard to eye-lashes. These too it seems to be destitute of. The hair in which the eyes are buried, and by which they are defended, seems to be the common fur of the head. I could detect in that immediately surrounding them no hairs of larger dimensions, or in any respect different from those of which its fine fur is composed.

The apertures for the admission of light constitute another peculiarity. When the fur is removed from the skin surrounding the eyes, a minute aperture appears over each, about $\frac{1}{25}$th of an inch in length when closed, and, in this state, linear and straight, but circular when fully expanded. The extreme margins of these openings in the integuments being covered with fur, there is no well-marked appearance of eyelids,—indeed, it may be a question, whether the Mole, in strictness, can be said to possess these appendages. From the observations I have made, I am disposed however to infer that it does possess them, but imperfect;—imperfect, not having been able to detect beneath the marginal cutis any vestige of ciliary cartilages, and yet having found in the surrounding subcutaneous cellular tissue muscular fibres so arranged as if designed for closure, resembling an orbicular muscle, and probably designed for and performing the part of such a muscle.

As to the other muscles of the eye, one only, an abductor, was distinguishable from adjoining muscles. It is of large size comparatively, and it may be inferred powerful: by acting on it, seizing it with a forceps, and drawing it upwards, the ball of the eye was retracted, thus denoting its office. I sought in vain for other muscles. That they were not discovered, supposing them to exist, is not surprising, considering the smallness of the organ and its peculiar uninsulated position, most unfavourable for discriminating the subordinate parts pertaining to it, such as the muscles.

Relative to the constituent parts of the organs themselves, excepting their delicacy and minuteness, I am not aware of any peculiarity. The eye-ball is about $\frac{1}{25}$th of an inch in diameter; the iris dark brown; the pupil circular; the lens about $\frac{1}{163}$rd of an inch in diameter. Traces of a vitreous humour, and also of an aqueous, were observable; the former in the appearance of a cellular texture, as seen under the microscope with a high power; the latter as an exudation of moisture, a just perceptible quantity of fluid, when the ball was ruptured. From the situation of the eyes low down in the face, the optic nerves are necessarily of unusual length.

The dissections, of which I have thus briefly given the results, I need hardly remark were made chiefly under water, and with the aid of the microscope.

To return to the subject which led to the inquiry, viz. the subterraneous eyeless Fauna brought to light by the Danish naturalist, you in your letter briefly advert to the speculations which this curious discovery gives rise to, as, "whether these animals originally had eyes, and have lost them from want of use by inhabiting for ages dark caves; or, whether they were originally created without eyes, for those abodes where they have no occasion for them," &c. Allow me to ask—fully appreciating the difficulty of solving such problems—whether the preceding observations on the eyes of the Mole are not rather in favour of the latter than of the former solution? It is easy to imagine how the optic nerve and the more important parts of the organ of vision might diminish in size from little use; but it is difficult to suppose that the same circumstance could have any material effect in obliterating a cavity in bone—the eye's orbit—and, if the Mole's eyes were thus originally designed, why may not the eyeless animals have been formed in the first instance without eyes? Do not we see throughout Nature the most perfect harmony between the organic structure and the modes of life and habits of the living beings, so that the one is the true index of the other,—and that in the most minute details? Excuse my touching on these speculative questions, which, probably, from their nature, always must be speculative,—unless indeed the eyeless species are found otherwise identical with species possessing eyes, and there be found also a gradation in them, as to power and size in accordance with the degrees of light to which the individuals have been habituated, as in advancing from the open air and the entrance of the dark abodes to their deepest recesses. Also, excuse me if the matter of this letter should not be new to you.

Lesketh How, Ambleside, April 28, 1851.

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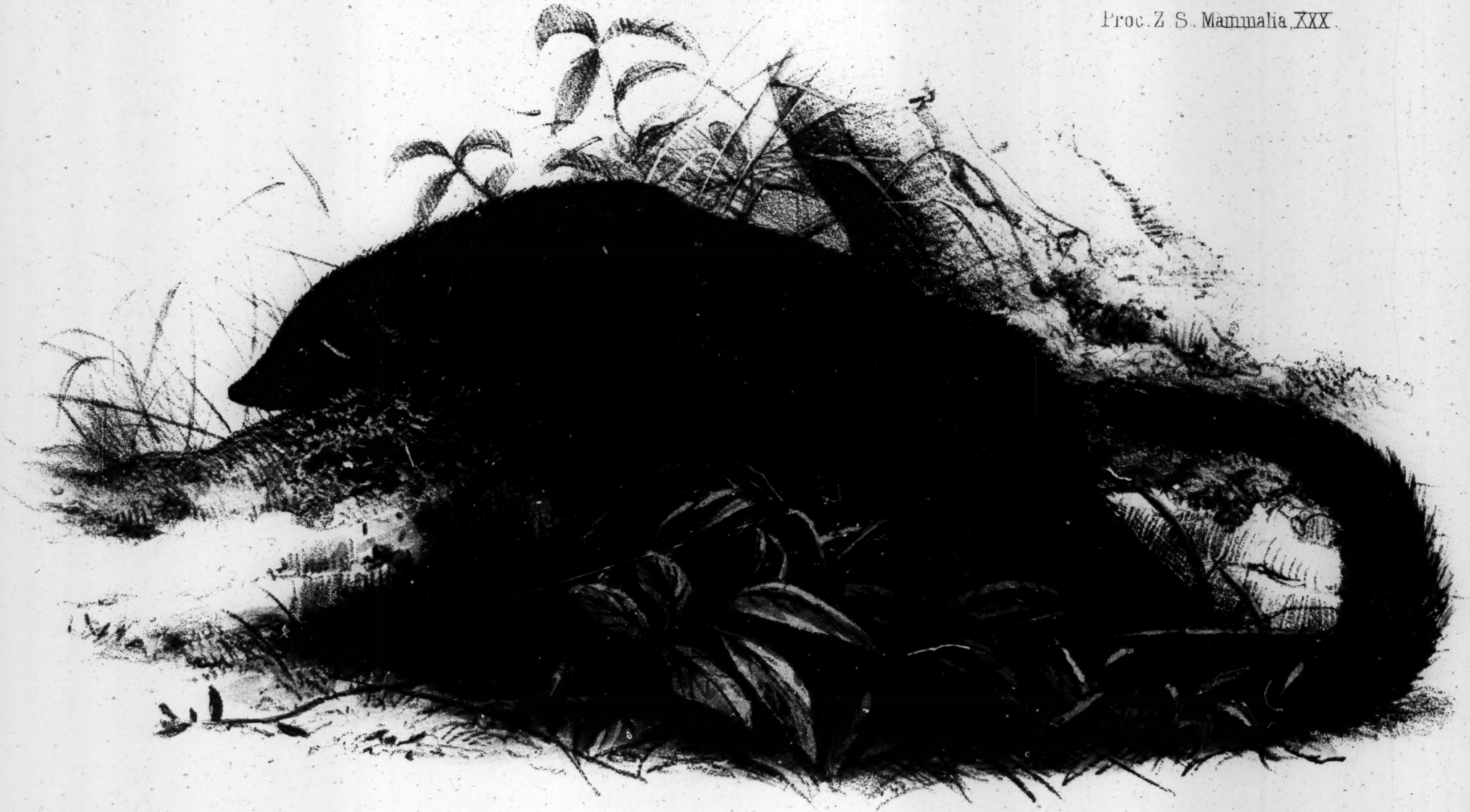
Proc. Z. S. Mammalia, XXX.



J. Wolf lith.

M. & N. Hanhart Impᵗ

HERPESTES SMITHII.

HERPESTES SMITHII.

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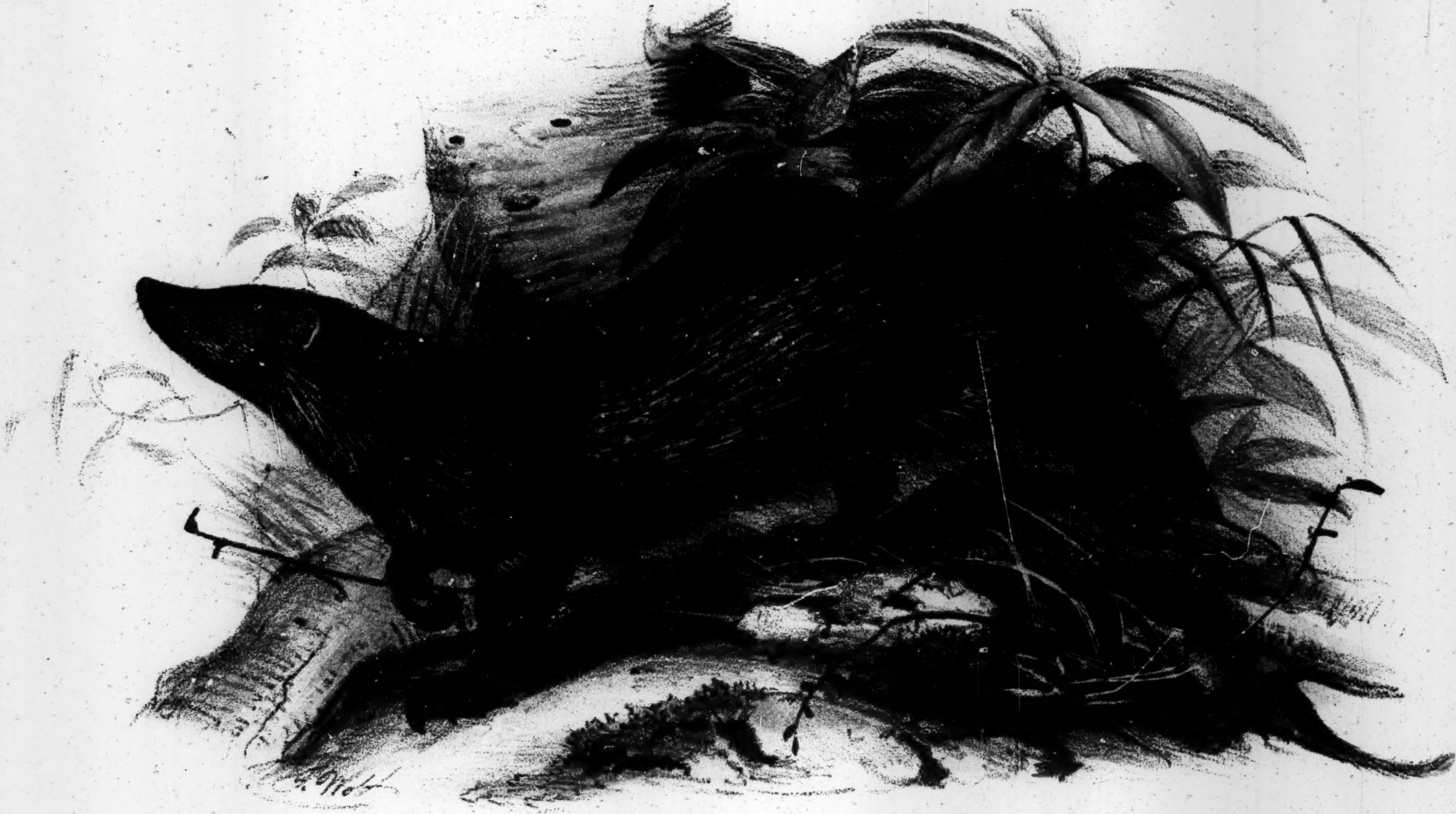
Proc. Z. S. Mammalia. XXXI.



J. Wolf, lith.

M & N Hanhart, Imp.

CYNICTIS MACCARTHIÆ, *Gray.*

P.S.—It may be deserving of mention, that notwithstanding the small size of the eye of the Mole, its appearance in fœtal development is early: thus, in a fœtus which I have recently examined, the length of which was about three-quarters of an inch, the eyes were distinct; they were visible—conspicuous in the naked face, even without the aid of a magnifying glass, and indeed were not much smaller than those of the adult, and but little different in appearance: the diameter of each was about $\frac{1}{160}$th of an inch.

2. NOTICE OF TWO VIVERRIDÆ FROM CEYLON, LATELY LIVING IN THE GARDENS. BY J. E. GRAY, ESQ., F.R.S. ETC.

(Mammalia, Pl. XXX., XXXI.)

The specimens here noticed were brought from Ceylon by Alex. Grace, Esq., and lived some time in the Gardens of the Society.

The first is the species which I described some years ago under the name of *Herpestes Smithii* (Mag. Nat. Hist. 1837, ii.), from a specimen which was living in the Surrey Zoological Gardens, now preserved in the Collection of the British Museum: that specimen was said to have been sent from the Cape of Good Hope, but this must have been a mistake, as it is quite unknown to Dr. Burchell, Dr. A. Smith, Mr. Smut, Dr. Wahlberg, or other zoologists who have written on the animals of South Africa.

Mr. Grace informs me that it is an inhabitant of the interior part of Ceylon. It is by far the most beautiful species of the genus, as will be seen from the accompanying illustration (Mamm., Pl. XXX.).

The second is a new species of CYNICTIS, which I propose to call

CYNICTIS MACCARTHIÆ. (Mammalia, Pl. XXXI.)

Teeth normal. Red brown; hair elongate, flaccid, pale brown, with a broad, black subterminal band, and a long whitish brown tip; of hands and feet shorter. Feet blackish brown, hair white tipped. Claws elongate, slender, compressed, especially of the two middle toes of the fore feet. Tail redder; hair elongate, one-coloured, red. Ears rounded, hairy.

Hab. Ceylon; Jaffna, North of Ceylon (*A. Grace, Esq.*).

This species somewhat resembles *Cynictis melanura* in general colour, but the hairs are much longer, not so adpressed, and, when the individual colour of the hair is examined, most distinct.

I have proposed to name this interesting animal after Mrs. MacCarthy, the wife of the Treasurer of the Colony and the daughter of Mr. Hawes, the Assistant Secretary to the Colonies, who is much interested in the study of natural history, and has kindly sent me several very interesting natural productions from Ceylon.

The skull differs from all the other Herpestes that I have examined, in the back of the nape being deeply and sharply notched instead of transversely truncated, the notch in the living animal being filled up with a cartilaginous septum.

3. Descriptions of fifty-two new species of the genus Mitra, from the Cumingian Collection.

By Arthur Adams, F.L.S. etc.

1. Mitra serotina, A. Adams. *M. testâ oblongo-fusiformi, acuminatâ, serotinâ; spirâ productâ, longitudinaliter plicatâ, plicis confertis, undulatis; transversim sulcatâ, sulcis subdistantibus; aperturâ anticè dilatatâ; columellâ quadriplicatâ, basi contortâ et recurvâ; labro intus lirato, margine recto, anticè subangulato.*

Hab. Marquesas.

A light orange species, with a produced spire, and the outer lip produced and rather angulated anteriorly.

2. Mitra cratitia, A. Adams. *M. testâ oblongo-fusiformi, albidâ, nitidâ, liris elevatis transversis, acutis, et lineis elevatis, longitudinalibus, decussatim ornatâ; interstitiis subtilissimè longitudinaliter striatis; aperturâ intus aurantiacâ; columellâ plicis quinque instructâ.*

Hab. South Africa.

The shell from which the description is taken is worn, and not in good condition, but it appears to be distinct from any species already described.

3. Mitra straminea, A. Adams. *M. testâ oblongo-fusiformi, stramineâ; anfractibus planulatis, liris transversis rugulosis, interstitiis cancellatis, suturâ subcanaliculatâ; aperturâ oblongâ, anticè subproductâ; columellâ plicis quatuor, basi subrecurvatâ; labro intus lævi.*

Hab. ——?

An oblong, transversely-ridged species, rather faintly cancellated between the interstices.

4. Mitra insignis, A. Adams. *M. testâ ovato-acuminatâ; spirâ acutâ, lævi, nitidâ, albidâ; anfractibus planis, fasciâ angustâ albo fuscoque articulatâ, ornatâ; anfractu ultimo anticè transversim striato; columellâ sinuatâ, biplicatâ, anticè incurvatâ.*

Hab. Rains Island (*Mr. Ince*).

This is a very peculiar form, reminding one almost of the genus *Pusionella* of Gray.

5. Mitra lævis, A. Adams. *M. testâ oblongo-fusiformi, apice acuto, lævi, nitidâ, albidâ; anfractibus planis, supremis cancellatis, ultimo fasciâ latâ transversâ, rufescenti ornato; columellâ plicis quatuor, supremis magnis imbricatis.*

Hab. Zanzibar.

A smooth *Oliva*-shaped species, with a polished surface, and a red-brown band blending into the white of the last whorl; the plates of the columella are imbricate.

6. Mitra tigrina, A. Adams. *M. testâ oblongo-ovatâ; spirâ crassiusculâ, apice mucronato, rufo, albo strigosâ; anfractibus*

planiusculis, transversim subsulcatis; columellâ plicis quinque; labro intus rufo.

Hab. Philippines.

Several specimens of this species, all agreeing in form, were collected by Mr. Cuming; but one only retained the natural colour of the surface.

7. **Mitra tiarella**, A. Adams. *M. testâ oblongo-ovatâ, fuscâ, nodulis albis, ad suturas coronatâ, longitudinaliter subplicatâ, transversim liratâ, interstitiis valdè punctatis; columellâ plicis quatuor; labro margine crenulato.*

Hab. Island of Ticao, sandy mud, 6 fathoms.

This small, brown-coloured species is beautifully crowned, in adult specimens, with a diadem of white nodules at the suture of the whorls.

8. **Mitra pigra**, A. Adams. *M. testâ oblongo-fusiformi, obscuro-fuscâ, lineis pallidulis transversis prope suturas, albidâ, maculis rufis, ornatâ; lævi; spirâ acuminatâ; anfractibus septem, planulatis; aperturâ subdilatatâ, intus albâ; columellâ plicis quatuor, albis, obliquis, instructâ, anticè subintortâ.*

Hab. Australia.

This species partakes somewhat of the character of *M. sacerdotalis.*

9. **Mitra luctuosa**, A. Adams. *M. testâ oblongo-fusiformi, obscuro-fuscâ, fasciâ unicâ pallidâ transversâ ornatâ; spirâ acutâ, anfractibus planulatis, transversim liratâ; interstitiis valdè clathrato-punctatis; aperturâ oblongo-ovatâ; spirâ breviori; labio crassiusculo; columellâ plicis quatuor salientibus.*

Hab. China Seas.

This species was obtained during the voyage of H.M.S. Samarang.

10. **Mitra insculpta**, A. Adams. *M. testâ ovato-fusiformi; spirâ brevi, acutâ; aperturâ breviori; anfractibus planulatis, pallidè fuscâ, maculis rufis, longitudinalibus, variegatâ; cingillis integris, acutis, prominentibus, æquidistantibus; liris intermediis submoniliformibus; interstitiis longitudinaliter valdè sulcatis; aperturâ elongatâ; columellâ plicis tribus; labro acuto margine crenulato.*

Hab. Ceylon (*Dr. Gardner*).

This species also belongs to the same group as *M. cingulata.*

11. **Mitra exarata**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturam æquante; anfractibus subrotundis; suturâ subcanaliculatâ, olivaceâ, fasciis duabus pallidis transversis, longitudinaliter costatâ; costellis æqualibus, subdistantibus; interstitiis lineis insculptis, profundis, transversis; columellâ plicis tribus, validis, instructâ.*

Hab. Bais, island of Negros, coarse sand, 7 fathoms.

The most characteristic feature of this species is the sculpture between the ribs, consisting of deep, engraved, transverse lines.

12. **Mitra rufocincta**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturam æquante; anfractibus rotundis, sordidè albâ, fasciâ transversâ latâ rufo-fuscâ; longitudinaliter costatâ, costis obtusis, rotundis, distantibus; interstitiis lineis impressis transversis; aperturâ subdilatatâ; columellâ plicis quatuor instructâ; labro tenui anticè dilatato.*

Hab. ——?

A small, slightly-worn specimen serves for this description, but it is of peculiar form and sculpture.

13. **Mitra nitida**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ breviori; anfractibus subrotundis, lævi, nitidâ, badiâ, anfractu ultimo anticè et posticè sulcis nonnullis transversis instructo; aperturâ oblongâ, anticè subdilatatâ; columellâ plicis quatuor; labro simplici.*

Hab. ——?

A small, brown, shining species, with only a few transverse spiral lines for sculpture.

14. **Mitra compta**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ longiore; anfractibus subrotundis, supernè angulatis, sordidè albâ, longitudinaliter plicatâ; transversim liratâ, liris apud plicas nodulosis; interstitiis valdè et regulariter clathratis; anfractu ultimo anticè angustato et reflexo; columellâ plicis quinque instructâ; labro internè sulcato, margine crenulato.*

Hab. China Seas.

This species, remarkable for the strong cancellations between the longitudinal plicæ, was brought home in H.M.S. Samarang.

15. **Mitra ligata**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ longiore, anfractibus planis; castaneo-fuscâ, lineâ unicâ pallidâ, transversâ in medio anfractuum, longitudinaliter plicatâ, transversim subliratâ; columellâ plicis quatuor; labro simplici, margine acuto.*

Hab. Pasacao, province of South Camarinas; isle of Luzon, on the sands.

The colouring of this species is very different from the allied species, and the sculpture is peculiar to many species belonging to the subgenus *Turris* of Schumacher.

16. **Mitra vibex**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturam æquante; anfractibus rotundis; fuscâ, prope suturas pallidulâ, zonulâ albâ angustâ transversâ in medio anfractuum; longitudinaliter corrugato-plicatâ, transversim liratâ, liris apud plicas nodulosis; interstitiis longitudinaliter striatis; anfractu ultimo angustato et anticè subreflexo; columellâ plicis quatuor instructâ; labro acuto.*

Hab. ——?

This species somewhat resembles *armillata* of Reeve, but the corrugated nature of the plicæ distinguishes it.

17. **MITRA INTERRUPTA**, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ; aperturâ breviori; anfractibus planis, propè suturas angulatis; albidâ, rufo-fusco variegatâ; cingulâ transversâ fuscâ moniliformi in medio anfractuum; longitudinaliter plicatâ, plicis æqualibus, obliquis, obtusis, distantibus; transversim corrugato-liratâ; interstitiis punctatis; anfractu ultimo anticè recurvato; columellâ supernè excavatâ, plicis tribus instructâ; labro simplici.*

Hab. North Australia.

The peculiar interrupted, dark, transverse band distinguishes this elegant species.

18. **MITRA EXIMIA**, A. Adams. *M. testâ ovatâ; spirâ brevi, obtusâ; nitidâ, aurantiacâ, maculis triangularibus albis, cingillis lævibus, latis, transversis; interstitiis valdè longitudinaliter clathratis; aperturâ lineari-oblongâ; columellâ plicis quatuor; labro intus lævi, margine crenulato.*

Hab. ——?

This pretty little species belongs to the same group as *M. læta*, but the sculpture and markings are quite different, although the colour is nearly similar.

19. **MITRA MULTILIRATA**, A. Adams. *M. fusiformis, spirâ acuminatâ, aperturam æquante; anfractibus rotundatis, ad suturas angulatis; pallidè rufo-fuscâ, cingillis lævibus transversis, æquidistantibus, obtusis, ornatâ; interstitiis lineis longitudinalibus, elevatis, subconfertis, instructis; anfractu ultimo anticè producto et subreflexo; columellâ anticè truncatâ, plicis quatuor instructâ; labro intus sulcato, margine crenulato.*

Hab. China Seas.

This species was obtained during the voyage of H.M.S. Samarang.

20. **MITRA LÆTA**, A. Adams. *M. testâ ovatâ, crassiusculâ, aurantiacâ, punctis albis ornatâ; longitudinaliter plicatâ; anfractibus planiusculis, transversim nodoso-liratâ; interstitiis simplicibus; columellâ plicis quinque instructâ; labro crenulato.*

Hab. Ticao, under stones, low water.

An oblong-ovate, shining, orange species, with scattered round white granules and regular nodulose liræ; the spire is obtuse; the whorls are flattened and longitudinally plicate.

21. **MITRA ORNATA**, A. Adams. *M. testâ oblongo-fusiformi, acuminatâ; spirâ acutâ; anfractibus novem, ad suturas angulatis; suturâ subcanaliculatâ; albâ, fasciis transversis rufo-fuscis ornatâ; longitudinaliter costatâ; costis regularibus, obliquis, subcrenatis; interstitiis transversim valdè clathratis; anfractu ultimo anticè subumbilicato et recurvo; columellâ plicis quatuor; labro posticè subangulato.*

Hab. ——?

This species is peculiar for its regular form and exactness of sculpture, as well as for its beauty of colouring.

22. **Mitra nodilirata**, A. Adams. *M. testâ oblongo-fusiformi, pallidè fulvâ, fasciâ latâ rufâ transversâ ornatâ; spirâ acuminatâ, turritâ; anfractibus octo planis, infra suturas angulatis; nitidâ, longitudinaliter plicatâ; plicis distantibus, prominentibus, obliquis, prope suturas valdè nodulosis; interstitiis lineis impressis transversis ornatis; columellâ plicis quatuor; labro acuto.*
Hab. ——?
An elegant form, with the pliciform ribs strongly nodulose at their hind part.

23. **Mitra pura**, A. Adams. *M. testâ fusiformi; spirâ aperturâ longiori; anfractibus subplanulatis; albâ; cingulis transversis angustis, subelevatis, crenulatis, rufo subarticulatis; liris tribus intermediis; interstitiis valdè punctatis, ornatâ; aperturâ oblongâ, anticè dilatatâ; columellâ plicis quinque; labro intus sulcato, margine crenato.*
Hab. ——?
An elegantly formed species, with the last whorl somewhat recurved.

24. **Mitra cingulata**, A. Adams. *M. testâ ovato-fusiformi; spirâ acutâ, aperturam æquante; anfractibus planulatis; sordidè albâ; cingillis prominentibus subcrenulatis, acutis, transversis; interstitiis longitudinaliter valdè clathratis, ornatâ; anfractu ultimo anticè producto et recurvato; columellâ plicis tribus.*
Hab. ——?
This species belongs to that group in which the whorls are encircled with transverse ridges.

25. **Mitra reticulata**, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ breviori; anfractibus subrotundis; albâ; cingulis transversis, æquidistantibus, acutis, crenulatis, sulcis obliquis longitudinalibus decussatis, ornatâ; columellâ plicis quatuor; labro intus sulcato.*
Hab. Port Essington, 7 fathoms, sandy mud (*Jukes*).
Remarkable for the acute, crenated, transverse ridges which give the surface a reticulated appearance.

26. **Mitra asperulata**, A. Adams. *M. testâ oblongo-fusiformi, pallidè rufo-fuscâ, ad suturas albidâ, longitudinaliter sulcatâ, transversim liratâ, liris nodulis, subacutis, asperulatis; spirâ productâ; anfractibus sex, subrotundis; aperturâ spiræ dimidium æquante, anticè abruptè truncatâ; columellâ plicis tribus; labro acuto.*
Hab. Australia.
The transverse ridges are set with subacute nodules, which give a rough appearance to the surface.

27. **Mitra mirabilis**, A. Adams. *M. testâ fusiformi; spirâ acuminatâ, aperturâ longiori; anfractibus novem, planulatis, supernè angulatis; albâ, maculis rufis triangularibus, et punctis transverso-elongatis, rufescentibus, ornatâ; longitudinaliter plicatâ,*

plicis obtusis, regularibus, distantibus, nodosis; nodis posticè prominentibus; cingulis transversis nodulosis, obtusis, elevatis, instructâ; anfractu ultimo in medio angustato; anticè productâ et subreflexâ; aperturâ elongatâ; columellâ plicis quatuor; labro posticè angulato, in medio inflexo, intus sulcato, margine crenulato.

Hab. Socotra.

28. Mitra albina, A. Adams. *M. testâ oblongo-fusiformi, albâ; spirâ conicâ, longitudinaliter plicatâ; anfractibus subrotundatis, liris transversis ornatis; anfractu ultimo lævi, posticè subplicato, anticè sulcis transversis punctatis ornato; columellâ plicis quinque; aperturâ oblongo-lineari; labio subcalloso; labro acuto.*

Hab. Batangas, Isle of Luzon, on the reefs.

This *Mitra* is perfectly white, and of a very peculiar form; Mr. Cuming possesses but a single specimen.

29. Mitra amœna, A. Adams. *M. testâ oblongo-fusiformi, albâ, maculis rufis variegatâ; spirâ acuminatâ; anfractibus octo, subrotundis, carinulis transversis, lævis, elevatis, rufo-fusco articulatis, lirâ intermediâ crenulatâ, interstitiis eleganter longitudinaliter clathratis; aperturâ angustâ; columellâ plicis quinque; labro tenui, acuto.*

Hab. Red Sea.

This elegant species belongs to the annulated group.

30. Mitra rutila, A. Adams. *M. testâ oblongo-fusiformi, acuminatâ, aurantiacâ, maculis albis sparsis ornatâ, fasciis pallidis transversis prope suturas, suturis maculis aurantiacis maculatis; spirâ productâ, acutâ; anfractibus septem, transversim liratâ; anfractu ultimo liris anticè distinctioribus; aperturâ dilatatâ; columellâ plicis quatuor; labro acuto, anticè crenato.*

Hab. ——?

31. Mitra delicata, A. Adams. *M. testâ ovato-fusiformi; spirâ aperturâ longiore; anfractibus planis; suturâ subcanaliculatâ, sordidè albâ, fasciis transversis duabus pallidis; longitudinaliter plicatâ, plicis angustis, acutis, crenulatis, interstitiis transversim clathratis, anfractu ultimo anticè angustato et recurvato; columellâ plicis quatuor; labro margine acuto, crenulato.*

Hab. Cape York, 8 fathoms (*Jukes*).

A species of great delicacy, both of colour and sculpture.

32. Mitra rufescens, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ, sordidè albâ, rufo variegatâ, cingillis transversis, acutis, subdistantibus, liris duabus intermediis, interstitiis longitudinaliter valdè sulcatis, sulcis subdistantibus; columellâ anticè tortuosâ, plicis quatuor obliquis instructâ; labro internè sulcato, margine crenato.*

Hab. China Seas.

This species, obtained during the voyage of H.M.S. Samarang, partakes of the same kind of sculpture as *M. annulata* and others, for which Swainson has formed a subgenus.

33. **Mitra formosa**, A. Adams. *M. testâ oblongo-fusiformi, albo rufoque eleganter variegatâ; spirâ acutâ; anfractibus* 8, *rotundis, ad suturas subangulatis, cingillis transversis nodulosis ornatâ, nodulis subquadratis, in seriebus regularibus; aperturâ spirâ breviore; columellâ plicis quatuor; labro acuto, margine crenato.*

Hab. Marquesas (*Rohr*).

A very handsome species, entirely covered with close-set granules arranged in transverse rows.

34. **Mitra sacerdotalis**, A. Adams. *M. testâ oblongo-fusiformi; spirâ acuminatâ; anfractibus novem, subplanulatis; fulvâ, lineis fuscis transversis ornatâ, prope suturas albidâ, rufo maculosâ; lævi, sulcis distantibus, transversis insculptâ; anfractu ultimo basi recurvatâ; aperturâ spiræ dimidium æquante, recurvatâ et anticè truncatâ; columellâ plicis quatuor, obliquis; labro albo, acuto, anticè rotundato.*

Hab. Australia.

A fine species of a peculiar character, both as regards form, colour and sculpture.

35. **Mitra macrospira**, A. Adams. *M. testâ pyramidali-turritâ; spirâ valdè productâ, albidâ, maculis rufis irregularibus ornatâ; anfractibus planis, longitudinaliter costellatâ, costellis lævibus subconfertis, interstitiis clathrato-punctatis; anfractu ultimo anticè angustato, basi subrecurvo; columellâ plicis quinque; labro intus lirato, margine acuto, anticè producto subangulato.*

Hab. ——?

A whitish species with a produced acuminate spire, and the short aperture with the base narrowed; the outer lip dilated anteriorly.

36. **Mitra bellula**, A. Adams. *M. testâ oblongo-fusiformi, albâ, nitidâ, maculis rufis moniliformibus ad suturas ornatâ; transversim sulcatâ; anfractibus planis, supremis cancellatis; aperturâ angustâ, anticè productâ, contortâ, et recurvâ; columellâ plicis quatuor instructâ.*

Hab. Isle of Capul, on the reefs, low water.

A small, transversely grooved, polished species, with a necklace-like row of reddish spots near the sutures.

37. **Mitra echinata**, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ, albido-carneolâ, ad apicem rufescente, ad basin fasciâ latâ transversâ rufescenti ornatâ; anfractibus planis, longitudinaliter costatâ, costis prominentibus, prope suturas echinato-nodulosis, et infernè subnodosis, interstitiis sulcato-clathratis; labro intus lirato; columellâ plicis quatuor instructâ.*

Hab. ——?

38. **Mitra scitula**, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ, anfractibus planiusculis, carneolâ; punctis rufescentibus sparsim pictâ; longitudinaliter costatâ, costis undulatis, lævibus, subdistantibus; interstitiis valdè clathratis; aperturâ*

anticè angustatâ, basi subrecurvâ; columellâ plicis quatuor instructâ.

Hab. China Seas.

A small, turreted, light-coloureds pecies, with undulating ribs and clathrated interstices.

39. MITRA MARMOREA, A. Adams. *M. testâ fusiformi-turritâ; spirâ acuminatâ; anfractibus planiusculis; olivaceâ, rufo-fuscâ marmoratâ, longitudinaliter costatâ, costis lævibus, crassis, supernè subnodosis; interstitiis transversim exaratis; columellâ plicis quinque; basi subcontortâ et recurvâ.*

Hab. Tambay, Isle of Negros, coarse sand, 10 fathoms.

Greenish, marbled with fuscous; ribs flat and broad; interstices with transverse engraved lines.

40. MITRA TURRICULA, A. Adams. *M. testâ fusiformi-turritâ, albâ, carneo sparsim pictâ, anfractibus supernè angulatis; longitudinaliter costatâ, costis crassis, lævibus, distantibus, supra nodosis, interstitiis sulcato-clathratis; aperturâ spiram æquante; columellâ plicis quatuor, supremis duabus duplicatis; basi vix recurvâ.*

Hab. ——?

A small, elegant, turreted species, with smooth, thick ribs, and the interstices punctate-clathrate.

41. MITRA PALLIDA, A. Adams. *M. testâ turrito-fusiformi; spirâ productâ, acuminatâ; anfractibus convexiusculis; albidâ, sparsim rufo-fusco pictâ, longitudinaliter costatâ, costis nodulosis, interstitiis clathrato-punctatis; aperturâ brevi, anticè angustatâ, basi productâ, tortuosâ et recurvâ; columellâ quadriplicatâ.*

Hab. Marquesas.

A delicate, small, pale species, with scattered red-brown blotches, and with the interstices between the ribs clathrate-punctate.

42. MITRA JUKESII, A. Adams. *M. testâ ovato-fusiformi; spirâ acutâ, aperturæ dimidium æquante; anfractibus planis, prope suturas angulatis; albidâ, fasciis castaneis transversis ornatâ; transversim sulcatâ, sulcis, prope suturas, profundioribus; longitudinaliter plicatâ, plicis obtusis, distantibus, prope suturas nodulosis; columellâ plicis quatuor instructâ; labro intus lævi.*

Hab. North Australia (*Jukes*).

This species is intermediate between *M. corrugata* and *M. vulpecula*, but is distinct from both.

43. MITRA CRENIPLICATA, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ; anfractibus planulatis; brunneâ, longitudinaliter plicatâ, plicis crenatis tenuibus; transversim liratâ, liris æqualibus, confertis, nodulosis ad plicas; aperturâ spiram æquante: labio posticè calloso, anticè dilatato; columellâ plicis quatuor instructâ; labro intus dentato-lirato, margine incrassato.*

Hab. ——?

This species belongs to the group named by Mr. Gray *Zierliana*.

44. **Mitra crenilabris**, A. Adams. *M. testâ fusiformi; spirâ aperturam æquante; anfractibus planis; fulvâ, longitudinaliter substriatâ, transversim sulcatâ; aperturâ oblongâ, anticè dilatatâ; columellâ plicis quatuor, anticè incurvatâ; labro, in medio, recto, margine crenato et incrassato.*

Hab. ——?

This *Mitra* resembles in many particulars *M. fulva*, Reeve, but in all the specimens I have seen the outer lip is thin and smooth in that species.

45. **Mitra castanea**, A. Adams. *M. testâ ovato-fusiformi; spirâ productâ; anfractibus rotundatis; castaneâ, nitidâ, transversim punctato-striatâ; aperturâ quàm spira breviore, anticè dilatatâ; columellâ plicis quinque.*

Hab. ——?

This species most closely resembles *M. badia*, Reeve, but the whorls are rounded, and it differs in other particulars.

46. **Mitra dichroma**, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ; anfractibus planis; suturâ canaliculatâ, anticè castaneo-fuscâ, posticè albidâ; longitudinaliter substriatâ, transversim sulcatâ, sulcis anticè profundis, aperturâ anticè dilatatâ; columellâ plicis quinque instructâ, anticè productâ; labro intus lirato, margine crenulato.*

Hab. ——?

47. **Mitra dealbata**, A. Adams. *M. testâ ovato-fusiformi; spirâ apice cancellato; anfractibus planulatis; suturâ profundâ, albâ, transversim sulcatâ, sulcis distantibus; aperturâ oblongâ, anticè dilatatâ; columellâ posticè excavatâ; plicis sex; labro anticè dilatato, intus lirato.*

Hab. ——?

This species somewhat resembles *M. crenilabris* in form, but it is much more slender, and the sculpture is different.

48. **Mitra nodulifera**, A. Adams. *M. testâ turritâ, fusiformi; spirâ quàm apertura longiore; anfractibus, prope suturas, angulatis; albidâ, longitudinaliter plicatâ, plicis, ad suturas, nodulosis, prominentibus, distantibus; transversim liratâ, interstitiis longitudinaliter striatis; aperturâ intus fulvâ, posticè angulatâ; columellâ plicis quatuor; labro margine flexuoso.*

Hab. ——?

A small species, somewhat resembling *M. cymelium*, Reeve, but without the transverse black lines.

49. **Mitra Mariæ**, A. Adams. *M. testâ ovato-conicâ; spirâ acuminatâ; anfractibus planis, cingulis tribus, transversis, acutis, elevatis, interstitiis longitudinaliter profundè sulcatis, instructis; posticè albâ, anticè hepaticâ, reticulationibus albis punctisque rufo-fuscis, ornatâ; anfractu ultimo, sulcis transversis, interstitiis*

simplicibus; columellâ plicis quinque instructâ; labro intus sulcato, margine crenulato.

Hab. Eastern Seas.

Somewhat like *M. incisa*, but of very different form and colour.

50. **Mitra pusilla**, A. Adams. *M. testâ ovato-fusiformi; spirâ turritâ, elongatâ; anfractibus subrotundatis; albidâ, fasciâ latâ transversâ, carneolâ, anticè ornatâ; longitudinaliter costatâ, costis regularibus, æqualibus, subconfertis, interstitiis transversim valdè sulcatis; aperturâ brevi; columellâ plicis quatuor.*

Hab. ——?

A small species, with a single, transverse, faint pink band at the fore part of the last whorl.

51. **Mitra columbellina**, A. Adams. *M. testâ ovato-fusiformi; spirâ brevi, acutâ; anfractibus subrotundatis, albo castaneoque concinnè pictâ, transversim evanidè sulcatâ; aperturâ ovato-oblongâ, anticè dilatatâ; columellâ plicis quatuor; labro intus lævi.*

Hab. ——?

This species is very prettily painted with white and dark chestnut-brown, and in form somewhat resembles a *Columbella*.

52. **Mitra Philippinarum**, A. Adams. *M. testâ ovato-fusiformi; spirâ brevi, acuminatâ; anfractibus planulatis, cinereâ, flammulis rufo-fuscis, longitudinalibus, variegatâ; transversim sulcatâ, sulcis regularibus, subdistantibus, profundis; aperturâ lineari-oblongâ, intus fuscâ; columellâ plicis sex; labro margine albo, crenato.*

Hab. Philippines.

This species is figured in Mr. Reeve's Monograph as *M. flammea* of Quoy, the original type of which, however, Mr. Cuming possesses, and it is entirely different.

May 27, 1851.

W. Yarrell, Esq., V.P.L.S., in the Chair.

The following communications were received and read:—

1. Notice of the Birds of Madeira, in a letter addressed to the Secretary.

By Edward Vernon Harcourt, Esq.

Sir,—According to your request, I send you a short account of the birds that breed in Madeira, together with a list of those that visit the island.

The birds of Madeira are less numerous than might be expected in so genial a climate, and most of them are merely varieties, where they differ from European species.

The birds that breed in Madeira are these :—

	Latin Name.	*English Name.*	*Portuguese Name.*
1.	Falco Tinnunculus, *Linn.*	Kestrel.	Francelho.
2.	—— Buteo, *Linn.*	Buzzard.	Manta.
3.	Strix flammea, *Linn.*	Barn Owl.	Coruja.
4.	Turdus Merula, *Linn.*	Blackbird.	Mérlo-preto.
5.	Sylvia Rubecula, *Lath.*	Redbreast.	Papinho.
6.	—— atricapilla, *Lath.*	Black-cap Warbler.	Tinto-Negro.
	(Curruca Heinekeni, *Jard.*)	Variety of the former.	Tinto-Negro de Capello.
7.	Curruca conspicillata, *Gould.*	Spectacle Warbler.	None.
8.	Regulus ——?	——?	Abibe.
9.	Motacilla boarula, *Linn.*	Grey Wagtail.	Lavandeira amarella.
10.	Anthus pratensis, *Bechst.*	Meadow Pipit.	Corre de Caminho.
11.	Fringilla butyracea, *Linn.*	Green or Wild Canary.	Canario.
12.	—— Carduelis, *Linn.*	Goldfinch.	Pinta Silva.
13.	—— Petronia, *Linn.*	Ring Sparrow.	Pardao.
14.	—— Tintillon, *Webb & Berthelot.*	Buff-breasted Chaffinch.	Tentilhao.
15.	—— cannabina, *Linn.*	Greater Redpole or Linnet.	Tinto roxo.
16.	Cypselus unicolor, *Jard.*	Lesser Swift.	Andorinha da Serra.
17.	—— murarius, *Temm.*	Common Swift.	—— do Mar.
18.	Columba Trocaz, *Hein.*	Long-toed Wood-Pigeon.	Trocaz.
19.	—— Palumbus, *Linn.*	Ring-dove.	Pombo.
20.	—— Livia, *Briss.*	Rock-pigeon.	Pombinho.
21.	Perdix rubra, *Briss.*	Red-legged Partridge.	Perdix.
22.	—— Coturnix, *Lath.*	Quail.	Cordonez.
23.	Scolopax Rusticola, *Linn.*	Woodcock.	Gallinhola.
24.	Sterna Hirundo, *Linn.*	Tern.	Garajao.
25.	Larus argentatus, *Brunn.*	Herring Gull.	Gaio, Guivata (after 3rd aut. moult).
26.	Procellaria Puffinus, *Linn.*	Cinereous Shearwater.	Cagarra.
27.	—— Anglorum, *Temm.*	Manks Shearwater.	Boeiro.
28.	—— obscura, *Gmel.*	Dusky Petrel.	Pintainho.
29.	—— anginho, *Hein.* —— Bulwerii, *Jard.*	Angel Petrel. Bulwer's Petrel.	Anginho.
30.	——?	——?	Roque de Castro.

The Kestrels are very numerous and very tame, perching on the roofs of houses, from whence they dart frequently at canary-birds hanging in their reed cages outside the windows, and they generally succeed in securing their prey; they live principally on lizards, grasshoppers, and mice.

The Buzzard is seldom seen about the town, but confines his flights to the highest mountains, feeding on small birds, insects, and reptiles.

The Barn Owl inhabits the ravines in small numbers; it is a little darker than the British Owl. It may be remarked that all the birds of Madeira are darker than their European brethren.

The Redbreast is very common; it is frequently caged, and seems to flourish in captivity.

The Blackbird, which in some parts is very plentiful, does not differ from the English bird.

The Black-cap Warbler, which is here the most domestic songster, has been sometimes called the Madeira Nightingale; there is a fulness in its warble which in a degree justifies such praise. A Madeiran variety of this bird has been described by Sir William Jardine* as a new species, under the name of *Curruca Heinekeni*; Dr. Heineken, however, in his paper on the subject in the 'Zoological Journal,' No. xvii. Art. xvii., disproves the supposition of its being a distinct species, and I am able to confirm the view that Dr. Heineken takes of it. The popular belief amongst the natives is, that where the nest of a "Tinto Negro" contains five eggs, the fifth always turns out a "Tinto Negro de Capello." The variety is much prized; for where you could buy a common "Tinto Negro" for sixpence or a shilling, you would be asked eight or ten shillings for a "Tinto Negro de Capello." The size of the two birds is precisely the same in all particulars; the chief difference consists in the black cap in the variety being extended to the shoulders, and I have sometimes seen the black extended over all the under parts: the under parts are generally much the same as those of the common female Black-cap, and the upper parts as those of the common male.

The Wren is one of the prettiest feathered inhabitants of Madeira; it lives amongst the laurel forests, in the less frequented parts of the island. It seems intermediate between the Gold and Fire-crested Wrens of Britain, and is a little larger and brighter than either.

The Spectacle Warbler is very locally distributed; it is found in brakes and bushes in some of the unfrequented parts.

The Grey Wagtail is very common, frequenting the cisterns attached to houses, as well as the streams; where, from its familiar habits amongst the washerwomen, it has been admitted in Madeiran phraseology into the ranks of the sisterhood, under the title of "Lavandeira."

The Meadow Pipit is plentifully found on the cliffs and fields near the sea, and on the serras.

The Green Canary is the original stock of the bird so well known to us as the Yellow Canary; it flies about in large flocks, with linnets and other birds, and is easily distinguished by its song, which is the same as that of the captive variety. The price of a good singing canary, either in Madeira or the Canary islands, varies from five to nine shillings, so that in fact it may be bought much cheaper in London. This bird has been admirably described by Dr. Heineken, in the 'Zoological Journal,' No. xvii. Art. xvii.

The Goldfinch is very common, and differs in no respect from our own.

The Ring Sparrow here takes the place, in a way, of our House Sparrow: it is universal; on the bleak serras, near houses, on the rocks by the sea; there is no place that it does not frequent. It differs thus in habits, though in nothing else, from the Ring Sparrow of Europe.

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* Edinb. Journ. of Nat. and Geog. Science, Jan. 1830, vol. i. p. 243.

The Chaffinch of Madeira is nearly identical with the bird figured, under the name of "*Fringilla Tintillon,*" in Webb and Berthelot's work on the Canary islands.

The Greater Redpole is very abundantly met with; it differs from the English Linnet in retaining its carmine colouring through the year.

The Lesser Swift is mentioned in Brewster's 'Journal,' by Dr. Heineken, under the title of "Black-chinned Swift." This property is however by no means general amongst the species: I have several in my possession with the chin fully as white as that of the common Swift. One of the chief differences is in size, the '*unicolor*' being much the smallest. The tail is forked about an inch and a half, and the plumage is rather darker than that of the common Swift.

The common Swift is not quite so plentiful as the Lesser Swift. Both species remain in the island throughout the year; their nests are built in the cliffs; their habits vary from those of Swifts in England; here they seem to take the place of the Swallow, hunting and skimming along the ground in a manner that would appear very degrading to their northern brethren.

The Ring-dove appears to be rather larger than the English bird; in other respects it is similar. It lives in the forests on the north side of the island.

The Long-toed Wood Pigeon has been described by Dr. Heineken, in 'Brewster's Journal,' under the name of "*Columba Trocaz*;" it is about an inch longer than the Madeiran Ring-dove; one of its chief peculiarities, and which seems to have escaped observation, is the great length of its centre toe, being more than an inch longer than that of the Ring-dove; it has a silvery ring all round its neck; it is darker in its general plumage than the Ring-dove, and is excellent eating. It inhabits the forests on the north side of the island, feeding upon grasses and the acorns of the laurel-trees.

The Rock Pigeon inhabits the sea cliffs, and rocks in the ravines all over the island. There is a variety here which is darker in its plumage and in the colour of its feet than the common Rock Pigeon.

The Red-legged Partridge is shot on the serras.

The Quail is more plentiful than the Partridge, and approaches nearer to the habitations of man; it pairs, laying about sixteen eggs, and has three or four broods in the season.

The Woodcock is found chiefly in the west, and on the Paul da Serra, sometimes plentifully. It is a large bird, but I think of inferior flavour; it breeds in the island, and is met with throughout the year.

The Tern appears chiefly at the Dezerta islands and at Point São Lourenço.

The Herring Gull is common everywhere; Dr. Renton says it is quicker by some months in obtaining its mature plumage than with us.

The Cinereous Shearwater breeds plentifully on the Dezerta islands; its cry, whether on the wing or on shore, is very remarkable; the natives salt it and consider it eatable.

The Manks Shearwater is also very plentiful at the Dezertas; it is easily distinguished from the Dusky Petrel, which is another inhabitant of the Dezertas, by its superior size, and by the colour of its feet. In the Dusky Petrel the feet are bluish ash-colour, and in the Manks Shearwater flesh-colour; in the Dusky Petrel all the secretions are green, and in the Manks Shearwater yellow. The Dusky Petrel is a very tame bird, and will live upon almost anything; it runs along the ground on its belly, and uses its curious-shaped bill in climbing up the rocks.

The Angel Petrel of Heineken has the tail slightly forked, and differs from the other smaller Petrels in having no white about the rump or flanks; it is entirely uniform black; it is very common on the Dezerta islands; when approached it emits a highly offensive matter.

The Bulwer's Petrel, as described by Sir Wm. Jardine[†], I never saw at Madeira, nor have I ever met with any one that has seen it there. Sir Wm. Jardine says, "it is easily distinguished from any other, by having the two centre tail-feathers elongated, as in the genus *Lestris*, and not even or forked, like the other Petrels." It is probably identical with the Angel Petrel.

There is another Petrel, called by the natives "Roque de Castro," pronounced "Roque de Crasto," which differs from any I have ever seen described; it approaches perhaps nearer to Leach's Petrel than any other, though the shape of the bill alone is sufficient to separate it from that species. It is common on the Dezerta islands, where it breeds, though it is by no means so abundant as the Angel Petrel.

The following is a list of the stragglers found in Madeira:—

	Latin Name.	*English Name.*	*Authority*[‡].
31.	Cathartes percnopterus, *Temm.*	Egyptian Vulture.	* * *
32.	Falco nisus, *Linn.*	Sparrow Hawk.	* * *
33.	Corvus corax, *Linn.*	Raven.	* * *
34.	—— corone, *Linn.*	Carrion Crow.	Mr. Lowe.
35.	Oriolus galbula, *Linn.*	Golden Oriole.	* * *
36.	Sturnus vulgaris, *Linn.*	Common Starling.	* * *
37.	Turdus iliacus, *Linn.*	Redwing.	Mr. Lowe.
38.	—— musicus, *Linn.*	Common Thrush.	Mr. Penfold.
39.	Sylvia hortensis, *Lath.*	Greater Petty-chaps.	Mr. Penfold.
40.	Troglodytes europæus, *Selb.*	Common Wren.	Mr. Lowe.
41.	Motacilla alba, *Linn.*	Pied Wagtail.	* * *
42.	Alauda arvensis, *Linn.*	Skylark.	Mr. Lowe.
43.	Fringilla chloris, *Linn.*	Green Grosbeak.	* * *
44.	—— domestica, *Linn.*	Common Sparrow.	Mr. Penfold.
45.	Cuculus canorus, *Linn.*	Cuckoo.	* * *
46.	Musophaga africana, *Temm.*	African Bee-eater.	Mr. Lowe.
47.	Upupa epops, *Linn.*	Hoopoe.	* * *
48.	Merops apiaster, *Linn.*	Bee-eater.	Mr. Lowe.
49.	Alcedo ispida, *Linn.*	King-fisher.	Mr. Lowe.

[†] Sir W. Jardine on the Birds of Madeira, 'Edinb. Journ. of Nat. and Geog. Science,' Jan. 1830, p. 245, and 'Illustrations of Ornithology,' by Jardine and Selby.

[‡] Where there are stars it is on my own authority.

	Latin Name.	*English Name.*	*Authority*†.
50.	Hirundo urbica, *Linn.*	House Martin.	* * *
51.	—— rustica, *Linn.*	Chimney Swallow.	* * *
52.	—— riparia, *Linn.*	Bank Martin.	Doubtful.
53.	Caprimulgus europæus, *Linn.*	European Goatsucker.	Mr. Hinton.
54.	Columba œnas, *Linn.*	Stock-dove.	Mr. Lowe.
55.	—— Turtur, *Linn.*	Turtle-dove.	* * *
56.	Œdicnemus crepitans, *Temm.*	Thick-knee.	Mr. Lowe.
57.	Calidris arenaria, *Ill.*	Sanderling.	Mr. Lowe.
58.	Vanellus cristatus, *Meyer.*	Crested Lapwing.	* * *
59.	Charadrius hiaticula, *Linn.*	Ringed Plover.	Mr. Lowe.
60.	—— pluvialis.	Golden Plover.	Mr. Hewitt.
61.	Strepsilas interpres, *Leach.*	Turnstone.	Mr. Lowe.
62.	Ciconia nigra, *Temm.*	Black Stork.	Mr. Lowe.
63.	? Ardea cinerea.	Common Heron.	* * *
64.	Ardea russata, *Wagler.*	Buff-backed Heron.	* * *
65.	—— purpurea, *Linn.*	Purple Heron.	* * *
66.	—— minuta, *Linn.*	Little Bittern.	* * *
67.	—— stellaris, *Linn.*	Common Bittern.	Mr. Lowe.
68.	—— nycticorax, *Linn.*	Night Heron.	* * *
69.	Limosa melanura, *Leisler.*	Black-tailed Godwit.	* * *
70.	Numenius arquata, *Lath.*	Common Curlew.	Mr. Hinton.
71.	—— phæopus, *Temm.*	Whimbrel.	Mr. Lowe.
72.	Tringa pugnax, *Linn.*	Ruff.	* * *
73.	—— subarquata, *Temm.*	Pigmy Curlew.	Mr. Lowe.
74.	—— variabilis, *Meyer.*	Dunlin.	* * *
75.	—— cinerea, *Temm.*	Knot.	Mr. Lowe.
76.	Totanus hypoleucos.	Sandpiper.	* * *
77.	—— glottis, *Bechst.*	Greenshank.	* * *
78.	Scolopax gallinago, *Linn.*	Common Snipe.	Mr. Hinton.
79.	—— major, *Temm.*	Great Snipe.	* * *
80.	Crex Baillonii, *Temm.*	Baillon's Crake.	* * *
81.	Gallinula chloropus, *Lath.*	Gallinule.	* * *
82.	Ortygometra crex, *Temm.*	Land-rail.	Mr. Lowe.
83.	Fulica atra, *Linn.*	Coot.	* * *
84.	Anser segetum, *Steph.*	Bean Goose.	* * *
85.	Mareca penelope, *Selb.*	Wigeon.	Mr. Penfold.
86.	Anas crecca, *Linn.*	Teal.	* * *
87.	—— boschas, *Linn.*	Mallard.	Mr. Penfold.
88.	Sterna nigra, *Linn.*	Black Tern.	Mr. Lowe.
89.	—— Dougallii, *Mont.*	Roseate Tern.	Sir W. Jardine.
90.	Larus tridactylus, *Lath.*	Kittiwake.	* * *
91.	Lestris cataractes, *Temm.*	Skua.	* * *
92.	Colymbus glacialis, *Linn.*	Northern Diver.	* * *
93.	Sula alba, *Temm.*	Gannet.	Mr. Lowe.
94.	Procellaria Leachii, *Temm.*	Leach's Petrel.	Sir W. Jardine.
95.	—— pelagica, *Linn.*	Stormy Petrel.	Doubtful.

I have the honour to remain, Sir,

Yours, &c.,

EDWARD VERNON HARCOURT.

† Where there are stars it is on my own authority.

2. DESCRIPTION OF NEW LAND SHELLS FROM THE COLLECTION OF H. CUMING, ESQ. BY DR. L. PFEIFFER.

1. **HELIX AUDEBARDI**, Pfr. *H. testâ imperforatâ, conoideo-globosâ, solidulâ, nitidâ, castaneo-fulvâ, strigis saturatioribus confertis ornatâ; spirâ conoideâ, apice obtusiusculâ, albidâ; anfractibus 5½ convexis, summis granulatis, ultimis irregulariter rugoso-striatis, ultimo inflato, anticè deflexo; columellâ perdeclivi, subarcuatâ, latâ, planâ, albâ; aperturâ perobliquâ, truncato-ovali, intus cæruleâ, nitidâ; peristomate incrassato, subreflexo, albo.*

Diam. maj. 48, min. 39, alt. 35 mill.

Hab. St. Domingo (*Sallé*).

2. **HELIX ALBERSIANA**, Pfr. *H. testâ umbilicatâ, subturbinato-depressâ, tenui, acutè et confertim costatâ, diaphanâ, rufo-corneâ; spirâ subturbinatâ, apice acutâ; anfractibus 4½ convexis, celeriter accrescentibus, ultimo anticè deflexo, basi juxta umbilicum angustè constricto; aperturâ perobliquâ, lunato-ovali; peristomate tenui, marginibus subconniventibus, dextro breviter expanso, columellari dilatato, reflexo, intus plicâ obliquâ, dentiformi munito.*

Diam. maj. 14½, min. 12, alt. 8½ mill.

Hab. St. Domingo (*Sallé*).

3. **HELIX PUBESCENS**, Pfr. *H. testâ angustissimè umbilicatâ, depressâ, tenui, pilis mollibus, brevibus, confertis pubescente, diaphanâ, lutescente; spirâ vix convexâ, obtusâ; anfractibus 5, convexiusculis, ultimo subrotundato, altiore quam lato, non descendente; aperturâ vix obliquâ, rotundato-lunari; peristomate simplice, recto, margine columellari supernè breviter reflexo.*

Diam. maj. 11, min. 10, alt. 6 mill.

Hab. St. Domingo (*Sallé*).

4. **HELIX LEUCORHAPHE**, Pfr. *H. testâ angustè umbilicatâ, depresso-turbinatâ, subtilissimè striatulâ, diaphanâ, luteo-corneâ, fasciâ angustâ, cretaceâ, ad suturam ornatâ; spirâ subturbinatâ, apice obtusiusculâ; anfractibus 6 planiusculis, ultimo convexiore, non descendente, basi subplanato; aperturâ vix obliquâ, lunari; peristomate simplice, recto, margine columellari reflexiusculo.*

Diam. maj. 10, min. 9, alt. 6 mill.

Hab. St. Domingo (*Sallé*).

5. **SUCCINEA DOMINICENSIS**, Pfr. *S. testâ ovali, solidulâ, substriatâ, corneo-albidâ, punctis corneis irregulariter aspersâ; spirâ conicâ, acutâ; anfractibus 3½ convexis, summis corneis, ultimo ⅗ longitudinis æquante; columellâ subcallosâ, vix recedente; aperturâ parùm obliquâ, ovali, subregulari, supernè vix angulatâ.*

Long. 11½, diam. 7, alt. fere 6 mill. Apert. 7½ mill. longa, medio 4½ lata.

Hab. St. Domingo (*Sallé*).

6. **BULIMUS MOUSSONI**, Pfr. *B. testâ perforatâ, oblongo-conicâ, sublævigatâ (lineis impressis spiralibus obsoletis notatâ), nitidulâ,*

albâ, fasciis sub 5, roseis ornatâ; spirâ conicâ, apice acutâ, rubrâ; anfractibus 6, subplanis, ultimo spirâ paulò breviore; columellâ arcuatâ, supernè subtortâ; aperturâ oblongo-ovali, intus concolore; peristomate simplice, recto, margine columellari fornicatim reflexo.

Long. 26, diam. 12 mill. Apert. 12 mill. longa, 7 lata.

Hab. St. Domingo (*Sallé*).

Next allied to *B. Hondurasanvs*, Pfr.

7. **Achatina dunkeri**, Pfr. *A. testâ turritâ, tenuiusculâ, lævigatâ, pellucidâ, nitidâ, fulvescente; spirâ elongatâ, apice obtusâ; suturâ impressâ, marginatâ, obsoletè crenulatâ; anfractibus 9, vix convexiusculis, ultimo $\frac{1}{3}$ longitudinis non attingente; columellâ arcuatâ, altè et subverticaliter truncatâ; aperturâ subtriangulari-semiovali; peristomate simplice, margine dextro antrorsum arcuato.*

Long. 28, diam. $7\frac{1}{2}$ mill. Apert. 9 mill. longa, medio 4 lata.

Hab. St. Domingo (*Sallé*).

8. **Achatina impressa**, Pfr. *A. testâ oblongo-turritâ, tenui, lævigatâ, lineis impressis longitudinalibus irregulariter notatâ, fulvidâ; spirâ turritâ, apice acutiusculâ; suturâ impressâ, submarginatâ; anfractibus $6\frac{1}{2}$ planis, ultimo $\frac{2}{5}$ longitudinis subæquante; columellâ arcuatâ, basi abruptè truncatâ; aperturâ obliquâ, sinuato-ovali; peristomate simplice, margine dextro basi recedente.*

Long. $8\frac{1}{2}$, diam. $2\frac{2}{3}$ mill. Apert. 3 mill. longa, medio $1\frac{1}{2}$ lata.

Hab. St. Domingo (*Sallé*).

9. **Balea dominicensis**, Pfr. *B. testâ subperforatâ, sinistrorsâ, turritâ, sublævigatâ, nitidâ, olivaceo-corneâ; spirâ regulariter attenuatâ, apice acutâ; anfractibus 12, convexis, ultimo infra medium subangulato; aperturâ verticali, subovali; peristomate simplice, recto, margine columellari verticali, breviter reflexo.*

Long. $11\frac{1}{2}$, diam. 3 mill. Apert. $2\frac{1}{2}$ mill. longa, $1\frac{3}{4}$ lata. (An adult.?)

Hab. St. Domingo (*Sallé*).

10. **Cylindrella monilifera**, Pfr. *C. testâ subrimatâ, oblongâ, solidulâ, truncatâ, confertissimè et arcuatim costulato-striatâ; opacâ, sordidè albidâ; suturâ impressâ, nodulis albidis subdistantibus notatâ; anfractibus (superst.) 9, convexis, ultimo non soluto, basi subacutè carinato; aperturâ obliquè subcirculari, ad carinam canaliculatâ; peristomate albo, reflexiusculo-expanso, supernè appresso.*

Long. 19, diam. supra medium 6 mill. Apert. cum peristomate oblique 5 mill. longa, $4\frac{1}{2}$ lata.

Hab. St. Domingo (*Sallé*).

11. **Cylindrella adamsiana**, Pfr. *C. testâ vix rimatâ, oblongo-pupiformi, truncatâ, nitidâ, confertè striato-punctatâ, albidâ, cornea, irregulariter strigatâ et variegatâ; suturâ lineari, albo-crenulatâ; anfractibus (superst.) 8–9, planis, ultimo angustiore, non soluto, basi cristâ compressâ, obtusâ munito; aperturâ vix*

obliquâ, subcirculari, ad cristam subcanaliculatâ; peristomate albo, breviter expanso-reflexo, supernè interrupto.

Long. 14–15½, diam. 5 mill. Apert. 4¼ mill. longa et lata.

Hab. St. Domingo (*Sallé*).

12. **Cylindrella salleana**, Pfr. *C. testâ non rimatâ, cylindraceâ, gracili, truncatâ, obliquè confertissimè costulato-striatâ, nitidâ, pallide fuscescente, vel rufo-fuscâ; anfractibus (superst.) 17–18, vix convexiusculis, ultimo angustiore, basi carinâ compressâ, acutâ munito, antrorsum breviter porrecto; aperturâ subobliquâ, rhombeo-rotundatâ, ad carinam distinctè canaliculatâ; peristomate albo, nitido, undique reflexiusculo-expanso.*

Long. 27, diam. (prope basin) 5 mill. Apert. cum peristomate 4⅔ mill. longa et lata.

Hab. St. Domingo (*Sallé*).

13. **Cylindrella gouldiana**, Pfr. *C. testâ vix subrimatâ, turritâ, truncatâ, confertissimè costulato-striatâ, sericeâ, pallide corneâ; suturâ impressâ, subdenticulatâ; anfractibus (superst.) 9, convexiusculis, ultimo soluto, antrorsum breviter descendente, basi subcompresso; aperturâ subobliquâ, ferè circulari, latere dextro subangulatâ; peristomate albo, undique breviter expanso.*

Long. 10, diam. 2⅓ mill. Apert. 2 mill. longa et lata.

Hab. St. Domingo (*Sallé*).

14. **Cyclostoma orbignyi**, Pfr. *C. testâ subperforatâ, elongato-pupoideâ, solidâ, confertim arcuato-striatâ, rubello-fulvâ; spirâ subcylindricâ, sensim attenuatâ, apice conicâ; suturâ profundâ; anfractibus 8 vix convexis, penultimo lato, ultimo fasciâ latâ violaceâ, antrorsum evanescente, ornato, basi cristâ compressâ, obtusâ munito; aperturâ circulari; peristomate incrassato, subreflexo, supernè appresso, infra cristam anfractibus penult. subexciso. Operculum tenue, albidum, extus concavum, arctispirum.*

Long. 27, diam. 9 mill.

β. Unicolor virenti-fulvum.

γ. Minus, interdum omnino violaceum, anfractibus convexioribus.

Hab. St. Domingo (*Sallé*).

15. **Helicina versicolor**, Pfr. *H. testâ depressâ, tenui, lævigatâ, citrinâ, sæpe viridi variegatâ, suturâ vel vertice purpureo; spirâ parùm elevatâ, obsoletè papillatâ; anfractibus 4½, planiusculis, rapidè accrescentibus, ultimo lato, subdepresso, anticè vix descendente; aperturâ diagonali, subtriangulari-semiovali; columellâ brevissimâ, callum crassum, semicircularem, nitidum, album emittente; peristomate breviter expanso, margine basali subreflexo, immediatè in columellam continuato. Operculum tenue, submembranaceum, castaneum, margine columellari et nucleo pallidis.*

Diam. maj. 8, min. 6⅔, alt. 5½ mill.

Hab. St. Domingo (*Sallé*).

16. **Helicina dominicensis**, Pfr. *H. testâ globoso-conicâ, solidulâ, concentricè confertim striatâ, parùm nitidâ, albidâ, luteo-*

vel fulvo-zonatâ; spirâ conicâ, acutâ; anfractibus 6, planiusculis, suturâ profundâ junctis, ultimo convexiore, vix descendente; columellâ brevissimâ, basi denticulatâ, callum emittente tenuem, vix circumscriptum; aperturâ parùm obliquâ, semiovali; peristomate acuto, subrecto. Operculum tenue, testaceum, carneum, margine columellari elevato.

Diam. maj. 6⅓, min. 5¾, alt. 5 mill.

Hab. St. Domingo (*Sallé*).

3. CONTRIBUTIONS TOWARDS A MONOGRAPH OF THE TROCHIDÆ, A FAMILY OF GASTEROPODOUS MOLLUSCA.

By ARTHUR ADAMS, R.N., F.L.S. ETC.

Genus 1. TROCHUS, Linn.—*Pyramidea*, sp. Swains.

1. TROCHUS NILOTICUS, Linn.

Trochus niloticus, Linn.; Gmel. p. 3565. no. 1; Chemn. Conch. v. t. 167. f. 1605, t. 168. f. 1614.—*Trochus marmoratus*, Lamk. (young).

Hab. North Australia (*Dring*).

2. TROCHUS MAXIMUS, Koch.

Trochus maximus, Koch; Phil. Abbild. Trochus, t. 6. f. 3.

Hab. ——?

3. TROCHUS ACUTANGULUS, Chemn.

Trochus acutangulus, Chemn. Conch. v. t. 163.—*Trochus conus*, Gmel.

Hab. Burias.

4. TROCHUS SPINOSUS, Lamk.

Trochus spinosus, Lamk. Hist. An. s. Vert. t. vii. p. .

Hab. ——?

5. TROCHUS ASPERULUS, Lamk.

Trochus asperulus, Lamk. Hist. An. s. Vert. t. vii. p. 22.

Hab. ——?

6. TROCHUS CUMINGII, A. Adams. *T. testâ turrito-conicâ, violaceâ, maculis viridibus pulcherrimè pictâ; anfractibus planis, cingulis, granorum moniliformibus ornatis, infernè nodoso-plicatis, anfractu ultimo angulato, peripheriâ radiatim nodo-spinosâ, basi concavâ, cingulis granulosis, insculptâ, centro profundè excavato umbilicum simulante; columellâ supernè tortuosâ, basi dente terminatâ; aperturâ tetragonâ; labro intus lirato.*

Hab. Sibonga, island of Zebu, under stones at low water (*H. C.*). Mus. Cuming.

7. TROCHUS FASTIGIATUS, A. Adams. *T. testâ conicâ, imperforatâ, rubrâ, maculis albis longitudinalibus variegatâ; an-*

fractibus planis, in medio concavis, supernè cingulis tribus nodulorum ornatis, ad suturam nodis subspinosis instructis, basi planâ, concentricè liratâ; liris crenulatis; columellâ posticè canaliculatâ, anticè truncatâ; labro in medio angulato.
Hab. ——?

Genus 2. CARDINALIA, Gray. *Pyramidea*, Swains.

1. CARDINALIA VIRGATA, Gmel.
Trochus virgatus, Gmel. p. 3580. no. 83.
Hab. ——?

Genus 3. PYRAMIS, Chemn.

Tectus, Montf.—*Pyramidea*, sp. Swains.

1. PYRAMIS DENTATUS, Forskal.
Trochus dentatus, Forsk. Egypt. Desc. Anim. p. 125. no. 67.—*Trochus foveolatus*, Gmel.
Hab. Port Essington (*Jukes*).

2. PYRAMIS NODULIFERUS, Lamk.
Trochus noduliferus, Lamk. Hist. An. s. Vert. t. vii. p. 18.
Hab. Mindanao and Madagascar.

3. PYRAMIS CÆRULESCENS, Lamk.
Trochus cærulescens, Lamk. Hist. An. s. Vert. t. vii. p. 18.
Hab. ——?

4. PYRAMIS OBELISCUS, Gmel.
Trochus obeliscus, Gmel. p. 3579.—*Trochus pyramis*, Chemn.
Hab. Bolinao, island of Luzon, on the reefs (*H. C.*).

5. PYRAMIS ACUTUS, Lamk.
Trochus acutus, Lamk. Hist. An. s. Vert. t. vii. p. 23.
Hab. Ticao, on the reefs.

6. PYRAMIS TRISERIALIS, Lamk.
Trochus triserialis, Lamk. Hist. An. s. Vert. t. vii. p. 22.
Hab. Philippines.

7. PYRAMIS PRASINUS, Menke.
Trochus prasinus, Menke, Moll. Nov. Holl. sp. p. 16. no. 64.
Hab. Eastern Seas.

8. PYRAMIS MAURITIANUS, Gmel.
Trochus mauritianus, Gmel. p. 3582. no. 99.
Hab. Capul, on the reefs.

9. PYRAMIS FENESTRATUS, Gmel.
Trochus fenestratus, Gmel.; Chemn. Conch. v. t. 163. f. 1549-50.
Hab. ——?

10. **Pyramis crenulatus**, Lamk.

Trochus crenulatus, Lamk. Hist. An. s. Vert. t. vii. p. 22.
Hab. Guimaras, under stones (*H. C.*).

11. **Pyramis architectonicus**, A. Adams. *P. testâ conicâ, imperforatâ, albidâ; anfractibus planis, subimbricatis, longitudinaliter costatis, costis crassis, rotundis, subnodosis, basi planâ, liris concentricis exaratâ; columellâ brevi, tortuosâ, anticè truncatâ; labro margine fimbriato.*
Hab. Signet Bay, North Australia (*Dring*).

12. **Pyramis leucogaster**, A. Adams. *P. testâ conicâ, imperforatâ; spirâ acutâ, in medio tumidâ, albâ, viridi variegatâ; anfractibus planulatis, longitudinaliter corrugatis, transversim cingulis nodulosis ornatis, ad suturam nodis sulcatis fimbriatis, basi planâ, albâ, concentricè sulcatâ; columellâ brevi, valde tortuosâ; labro anticè intus lirato.*
Hab. ——?

Genus 4. Tegula, Lesson.

1. **Tegula pellis-serpentis**, Wood.

Trochus pellis-serpentis, Wood, Ind. Test. Suppl. pl. 5. f. 4.—*Trochus strigillatus,* Anton.
Hab. ——?

Genus 5. Infundibulum, Montf.—*Carinidea*, Swains.

1. **Infundibulum concavum**, Linn.

Trochus concavus, Linn.; Chemn. v. pl. 168. f. 1620–21.
Hab. ——?

2. **Infundibulum radiatum**, Chemn.

Trochus radiatus, Chemn. v. pl. 170. f. 1640–42.
Hab. Zanzibar.

3. **Infundibulum cariniferum**, Beck.

Trochus cariniferus, Beck; Reeve, Conch. Syst. pl. 218. f. 8.
Hab. Signet Bay, North Australia.

4. **Infundibulum Kochii**, Phil.

Trochus Kochii, Phil. Abbild. Trochus, vi. t. 3. f. 8.—? *Trochus Listeri,* Wood, Ind. Test. Suppl. p. 5. f. 8.
Hab. ——?

5. **Infundibulum delicatulum**, Phil.

Trochus delicatulus, Phil. Zeit. f. Malac. 1846, July, p. 105; Chemn. v. pl. 171. f. 1669.
Hab. St. Elena.

6. **Infundibulum Saga**, Phil.

Trochus Saga, Phil. Zeit. f. Malac. 1846, July, p. 103.
Hab. ——?

7. INFUNDIBULUM DEPRESSUM, Gmel.
Trochus depressus, Gmel. 3573; Chemn. Conch. v. pl. 171. f. 1668.
Hab. ——?

8. INFUNDIBULUM CHLOROMPHALUS, A. Adams. *I. testá depresso-conicá, pseudo-umbilicatá, viridi. atro-purpureo punctatá; anfractibus planis, cingulis confertis granorum ornatá, basi concavá, cingulis inæqualibus articulatis insculptá, regione umbilicali infundibuliformi, intus viridi; columellá supernè tortuosá, tuberculatá.*
Hab. ——?

9. INFUNDIBULUM CALIFORNICUM, A. Adams. *I. testá depresso-conicá, pseudo-umbilicatá, albidá, viridi rufoque variegatá; anfractibus planis, supra angulatis, ultimo angulato, cingulis tuberculorum subdistantium multiformium ornatá; interstitiis longitudinaliter obliquè costatis, basi concavá, cingulis confertis crenulatis insculptá, regione umbilicali infundibuliformi, viridi, lineá albá elevatá cincto; columellá supernè tortuosá, tuberculatá.*
Hab. California.

Genus 6. POLYDONTA, Schumacher.—*Lamprostoma*, Swains.

1. POLYDONTA MACULATA, Linn.
Trochus maculatus, Linn.; Chemn. v. pl. 168. f. 1615–18.
Hab. Port Essington, adhering to rocks, deep water (*Jukes*).

2. POLYDONTA INÆQUALIS, Chemn.
Trochus inæqualis, Chemn. v. pl. 170. f. 1635–36.—*Trochus granosus*, Lamk.
Hab. Philippines.

3. POLYDONTA REGIA, Chemn.
Trochus regius, Chemn. v. p. 170. f. 1637.
Hab. ——?

4. POLYDONTA TENTORIUM, Chemn.
Trochus Tentorium, Chemn. v. p. 169. f. 1628.
Hab. Philippines.

5. POLYDONTA STELLATA, Chemn.
Trochus stellatus, Chemn. v. pl. 169. f. 1630.
Hab. ——?

6. POLYDONTA VERRUCOSA, Gmel.
Trochus verrucosus, Gmel.; Chemn. v. pl. 170. f. 1638.—*Trochus elatus*, Lamk.
Hab. Zanzibar.

7. POLYDONTA COSTATA, Chemn.
Trochus costatus, Chemn. v. pl. 169. f. 1633–34.
Hab. ——?

8. **Polydonta Spengleri**, Chemn.
Trochus Spengleri, Chemn. v. pl. 169. f. 1631.
Hab. ——?

9. **Polydonta ochroleucos**, Gmel.
Trochus ochroleucos, Gmel.; Chemn. v. pl. 169. f. 1629.
Hab. ——?

10. **Polydonta vernalis**, Chemn.
Trochus vernalis, Chemn. v. pl. 169. f. 1625-26.—*Trochus vermis*, Gmel.—*Trochus subviridis*, Phil.
Hab. ——?

11. **Polydonta viridescens**, Chemn.
Trochus viridescens, Chemn. v. pl. 170. f. 1643-44.—*Trochus viridis*, Gmel.
Hab. Capul, Philippines.

12. **Polydonta reticulata**, Wood.
Trochus reticulatus, Gray in Wood, Ind. Test. Suppl. pl. 6. f. 38.
Hab. Bencoonet, Sumatra, on the reefs (*H. C.*).

13. **Polydonta lineata**, Lamk.
Trochus lineatus, Lamk. Hist. An. s. Vert. tom. vii. p. 23.
Hab. Swan Point (*Dring*).

14. **Polydonta Hanleyana**, Reeve.
Trochus Hanleyanus, Reeve, Conch. Syst. t. f. —*Trochus engrainus*, Philippi.
Hab. Swan Point (*Dring*).

15. **Polydonta tiarata**, Quoy & Gaim.
Trochus tiaratus, Quoy & Gaim. Voy. de l'Astr. t. 64. f. 8.—*Polydonta elegans*, Gray.
Hab. New Zealand (*Earl*).

16. **Polydonta incrassata**, Lamk.
Trochus incrassatus, Lamk. Hist. An. s. Vert. tom. vii. p. 20; Chemn. Conch. v. p. 169. f. 1632.
Hab. ——?

17. **Polydonta elegantula**, Wood.
Trochus elegantulus, Gray in Wood, Ind. Test. Suppl. p. 5. f. 9.
Hab. ——?

18. **Polydonta aspera**, Chemn.
Trochus asper, Chemn. Conch. v. pl. 169. f. 1633-34.
Hab. Banguey, province of North Iloco, island of Luzon, on the reefs at low water (*H. C.*).

19. **Polydonta concinna**, Philippi.
Trochus concinnus, Phil. Zeit. f. Malac. 1846, July, p. 105.
Hab. ——?

20. POLYDONTA TURRIS, Phil.
Trochus turris, Phil. Zeit. f. Malac. 1846, July, p. 102.
Hab. ——?

21. POLYDONTA INCARNATA, Phil.
Trochus incarnatus, Phil. Zeit. f. Malac. 1846, July, p. 103.
Hab. Suez, Red Sea.

22. POLYDONTA IGNOBILIS, Phil.
Trochus ignobilis, Phil. Zeit. f. Malac. 1846, July, p. 102.
Hab. ——?

23. POLYDONTA PUSTULOSA, Phil.
Trochus pustulosus, Phil. Kust. Conch. Cab. pl. 44. f. 6.
Hab. ——?

24. POLYDONTA GIBBERULA, A. Adams. *P. testâ elevato-conicâ, in medio gibbosâ, anfractu ultimo angustato ; albidâ, lineis roseis flammulatis radiatim pictâ ; anfractibus subconvexis, cingulis granosis transversis ornatâ, ultimo obtusè angulato ; basi convexiusculâ, albâ, fasciis roseis radiatim pictâ ; centro excavato, umbilicum mentiente ; columellâ supernè solutâ, margine tuberculo-denticulato ; labro intus lirato, infernè denticulato.*
Hab. Philippines.

25. POLYDONTA PALLIDULA, A. Adams. *P. testâ elevato-conicâ, albidâ, maculis luteolis pictâ ; anfractibus planis, cingulis tuberculorum ornatâ, tuberculis infernè in costas excurrentibus, basi convexâ, cingulis granosis ornatâ, cavitate contortâ umbilicum simulante ; columellâ supernè solutâ, margine tuberculato-dentato ; labro intus lirato, infernè denticulato.*
Hab. ——?

26. POLYDONTA CORRUGATA, A. Adams. *P. testâ elevato-conicâ, albidâ, rufo-fusco variegatâ ; anfractibus planiusculis, sulcis transversis, sulcisque obliquis nodoso-reticulatis, infernè obliquè costatis, costis nodosis ornatis ; basi planiusculâ, in medio concavâ, excavatâ, umbilicum mentiente ; columellâ supernè solutâ, margine tuberculato-dentato ; labro intus lirato, infernè denticulato.*
Hab. ——?

27. POLYDONTA SQUAMIGERA, A. Adams. *P. testâ elato-conicâ, albidâ, cinereo-viridi radiatim pictâ ; anfractibus planiusculis, cingulis granulorum tribus ornatis, infernè obliquè costatis, costis in spinis squamiformibus excurrentibus, basi planâ striis granosis, fasciisque rufo-viridibus ornatâ, centro excavato umbilicum simulante, intus albo lineis elevatis cincto ; aperturâ lineis acutis elevatis, transversis in faucibus instructâ.*
Hab. ——?

Genus 7. PHORCUS, Risso.—*Omphalius*, Philippi.

1. PHORCUS MELALEUCOS, Jonas.

Trochus melaleucos, Jonas, Zeit. f. Malac. 1844, p. 169; Phil. Abbild. Trochus, t. v. f. 7.

Hab. ——?

2. PHORCUS OCCULTUS, Phil.

Trochus occultus, Phil. Abbild. p. 17. t. 5. f. 8.

Hab. ——?

3. PHORCUS MODESTUS, Koch.

Trochus modestus, Koch; Phil. Abbild. Trochus, p. 30, t. 5. f. 10.

Hab. ——?

4. PHORCUS VARIEGATUS, Chemn.

Trochus variegatus, Chemn. v. pl. 171. f. 1677.—*Trochus viridulus*, Gmel.; Wood, Ind. Test. p. 28. f. 42.—*Trochus Byronianus*, Wood.—*Trochus Brazilianus*, Menke.

Hab. ——?

5. PHORCUS CARNEUS, Gmel.

Trochus carneus, Gmel. 3574?—*Trochus indusii*, Chemn.

Hab. ——?

6. PHORCUS CRUCIATUS, Chemn.

Trochus cruciatus, Chemn. pl. 171. f. 167.

Hab. ——?

7. PHORCUS QUADRICOSTATUS, Wood.

Trochus quadricostatus, Gray in Wood, Ind. Test. Suppl. p. 5. f. 15. —*Trochus torulosus*, Phil. Abbild. t. 2. f. 12.

Hab. ——?

8. PHORCUS DENTATUS, Gmel.

Turbo dentatus, Gmel.; Chemn. Conch. v. p. f.

Hab. ——?

9. PHORCUS QUADRICARINATUS, Gmel.

Trochus quadricarinatus, Gmel.; Chemn. ii. t. 196. f. 1892-93.—*Trochus rubro-flammulatus*, Koch.

Hab. ——?

10. PHORCUS UMBILICARIS, Linn.

Trochus umbilicaris, Linn.; Chemn. v. p. f. —*Trochus excavatus*, Lamk.—*Trochus cinereus*, Da Costa.

Hab. ——?

11. PHORCUS SCALARIS, Anton.

Trochus scalaris, Anton.; Phil. Abbild. Trochus, p. 18. t. 2. f. 7.

Hab. ——?

12. Phorcus fuscescens, Phil.

Trochus fuscescens, Phil. Abbild. Trochus, t. 3. f. 8.

Hab. ——?

13. Phorcus nodicinctus, A. Adams. *P. testá conoideá, umbilicatá, fuscá luteo variegatá, lævi; anfractibus subplanulatis, cingulis tribus nodulosis, liris elevatis transversis ornatis, anfractu ultimo subangulato, basi convexiusculá, lineis elevatis concentricis sculptá, regione umbilicali albidá; columellá brevi, arcuatá, basi dentibus duobus terminatá; labro fusco marginato.*

Hab. ——?

14. Phorcus granifer, A. Adams. *P. testá orbiculato-conicá, fuscá, cingulis transversis granorum distantium ornatá, cingulis remotiusculis, interstitiis transversim liratis; anfractibus rotundatis, suturá canaliculatá; umbilico aperto, perspectivo; columellá sinuatá, basi dentibus duobus terminatá; labro intus crenulato.*

Hab. ——?

15. Phorcus liratus, A. Adams. *P. testá conoideá, umbilicatá, fuscá, lineis pallidis undulatis ornatá, cingulis distantioribus transversis insculptá; columellá sinuatá, basi dentibus tribus terminatá, umbilico aperto, perspectivo, peromphalo viridulo; labro intus lævi.*

Hab. ——?

16. Phorcus semigranosus, A. Adams. *P. testá orbiculato-conoideá, umbilicatá, purpureo alboque variegatá, transversim tenuiter striatá; anfractibus planiusculis, cingulis confertis subgranosis ornatis, ultimo subangulato, basi planiusculá, cingulis granosis insculpto; margine umbilici lineá albá elevatá cincto; labio supra calloso; columellá supernè sinuatá, basi in tuberculis duobus terminatá et infra tuberculos dentibus duobus instructá; labro intus lævi, anticè callo marginato.*

Hab. West Indies.

17. Phorcus californicus, A. Adams. *P. testá orbiculato-conicá, profundè umbilicatá, viridi, atro-purpureo radiatim maculatá, liris transversis subnodulosis inæqualibus ornatá; anfractu ultimo subangulato; basi convexiusculá; umbilico perspectivo; labio in medio valde excavato, columellá anticè dentatá, intus lævi.*

Hab. California. Mus. Cuming.

Genus 8. Clanculus, Montfort.

Polydonta b., Schum.—*Fragella,* Swainson.—*Apiculum,* sp., Humph.—*Monodonta,* sp., Lamk.—*Otavia,* Risso (not Cantraine).

1. Clanculus Pharaonis, Linn.

Trochus Pharaonis, Linn. Syst. Nat. ed. 12. no. 581; Chemn. Conch. pl. 171. f. 1672–73.

Hab. ——?

2. **Clanculus corallinus**, Gmel.
Trochus corallinus, Gmel. no. 3576; Adans. Senegal, p. 183. t. 12. f. 4.—*Monodonta punicea,* Phil.
Hab. ——?

3. **Clanculus Smithii**, Wood.
Trochus Smithii, Gray in Wood, Ind. Test. Suppl. pl. 5. f. 20.
Hab. Japan.

4. **Clanculus Maugeri**, Wood.
Trochus Maugeri, Gray in Wood, Ind. Test. Suppl. pl. 5. f. 27.
Hab. Australia.

5. **Clanculus floridus**, Phil.
Trochus clangulus, Gray in Wood, Ind. Test. Suppl. pl. 5. f. 31.
Hab. New Zealand (*Jukes*).

6. **Clanculus mediterraneus**, Wood.
Trochus mediterraneus, Wood, Ind. Test. Suppl. pl. 5. f. 32.—*Monodonta Vieilloti,* Payr.—*Mon. Araonis,* Bast.
Hab. Naples; on rocky ground (*Philippi*).

7. **Clanculus clanguloides**, Wood.
Trochus clanguloides, Gray in Wood, Ind. Test. Suppl. pl. 6. f. 39.
Hab. ——?

8. **Clanculus limbatus**, Quoy et Gaimard.
Trochus limbatus, Quoy et Gaim. Voy. de l'Astrol. p. 245. pl. 63. f. 16.
Hab. ——?

9. **Clanculus Patagonicus**, d'Orbigny.
Monodonta Patagonica, d'Orb. Voy. dans l'Am. Mérid. t. 55. f. 2.
Hab. ——?

10. **Clanculus Couturii**, Payr.
Monodonta Couturii, Payr. Cat. p. 134. t. 6. f. 19, 20.
Hab. Malta.

11. **Clanculus ringens**, Menke.
Monodonta ringens, Menke, Moll. Nov. Holl. sp. p. 14.
Hab. New Holland.

12. **Clanculus agrestis**, Chemn.
Trochus (*Globulus*) *agrestis,* Chemn. Conch. p. 171. f. 1678.—*Monodonta villana,* Phil.
Hab. ——?

13. **Clanculus Guianicus**, Chemn.
Trochus (*Globulus*) *Guianicus,* Chemn. Conch. pl. 171. f. 1680.—*Trochus Guineensis,* Gmel.—*Trochus* (*Globulus*) *Subucula,* Chemn. (var.).
Hab. ——?

14. **Clanculus Jussieui**, Payr.
Monodonta Jussieui, Payr. Cat. pl. 6. f. 17.
Hab. Corsica; Languedoc; France.

15. **Clanculus turgidulus**, Brocchi.
Trochus turgidulus, Brocchi.
Hab. Corsica.

16. **Clanculus lupinus**, Menke.
Monodonta lupina, Menke, Moll. Nov. Holl. sp. p. 15.
Hab. ——?

17. **Clanculus Krausii**, Phil.
Monodonta Krausii, Phil. Zeit. f. Malac. 1846, July, p. 101.
Hab. ——?

18. **Clanculus corrugatus**, Koch.
Trochus corrugatus, Koch; Phil. Abbild. p. 67. Troch. t. 2. f. 7.
Hab. ——?

19. **Clanculus ochroleucus**, Phil.
Trochus ochroleucus, Phil. Zeit. f. Malac. 1846.

20. **Clanculus spadiceus**, Phil.
Trochus spadiceus, Phil. Zeit. f. Malac. 1846.

21. **Clanculus anus**, Phil.
Trochus anus, Phil. Zeit. f. Malac. 1846.

22. **Clanculus personatus**, Phil.
Trochus personatus, Phil. Zeit. f. Malac.
Hab. New Holland. Mus. Hanley.

23. **Clanculus scabrosus**, Phil.
Trochus scabrosus, Phil. Zeit. f. Malac. 1846.

24. **Clanculus Ludwigi**, Krauss.
Trochus Ludwigi, Krauss, Sudafrik Moll. t. 5. f. 33.

25. **Clanculus margaritarius**, Phil.
Monodonta margaritaria, Phil. Zeit. f. Malac. 1846, July, p. 100.

26. **Clanculus ormophorus**, A. Adams. *C. testâ depresso-conicâ, umbilicatâ; anfractibus rotundatis, cingulis granorum æqualibus ornatis, cingulo primo, secundo et tertio granis fuscis albis alternantibus, quarto granis fuscis ornatis; anfractu penultimo gibboso, ultimo rotundato; umbilico crenulato; columellâ callosâ, subreflexâ, basi dente triplicato.*
Hab. ——?

27. **CLANCULUS VARIEGATUS**, A. Adams. *C. testá depresso-conicá, pallidá, rufo-fusco variegatá; anfractibus supra tumidis, cingulis granorum ornatis; interstitiis striis obliquis longitudinalibus; anfractu ultimo acutè angulato, basi plano; umbilico crenulato; columellá supra tortuosá, margine reflexá, crenulatá, basi dente biplicato terminatá; labro intus dentibus lamellaribus, superiore majore.*
Hab. Island of Siquijor, under stones (*H. C.*).

28. **CLANCULUS CINGULIFER**, A. Adams. *C. testá elevato-conoideá, carneolá, cingulo albo rufoque articulato, ornatá; anfractibus rotundatis, cingulis transversis granosis sculptis; basi concavá, peromphalo albo roseo radiato, margine plicato; columellá crassá, supra nodosá, infra uniplicatá; basi dente triplicato terminatá; labro intus lirato; tuberculo maximo, prope marginem superiorem.*
Hab. ——?

29. **CLANCULUS MACULOSUS**, A. Adams. *C. testá elevato-conoideá, rufo-fuscá, maculis albidis variegatá; anfractibus rotundatis, cingulis granorum ornatis, interstitiis obliquè striatis, margine umbilici crenulato; columellá supra tuberculo magno instructá, basi dente biplicato terminatá; labro intus lirato, lirá supremá maximá.*
Hab. ——?

30. **CLANCULUS SULCARIUS**, A. Adams. *C. testá parvá, albidá, fasciis fuscis radiatim ornatá, cingulis distantioribus granorum instructá, interstitiis longitudinaliter obliquè striatis; anfractibus parum convexis, margine umbilici crenulato; columellá dente pliciformi; labro intus crenulato.*
Hab. Island of Masbate, sandy mud, 7 fathoms (*H. C.*).

31. **CLANCULUS ACUMINATUS**, A. Adams. *C. testá elevato-conicá; spirá acuminatá, fuscá, nigro-fusco punctatá, cingulis transversis subdistantibus granorum ornatá; interstitiis lineis transversis et longitudinalibus decussatis; margine umbilici subnoduloso; columellá margine reflexo, integro, basi dente simplici magno terminatá; labro intus lirato.*
Hab. Sibonga, island of Zebu, under stones (*H. C.*).

32. **CLANCULUS ALBINUS**, A. Adams. *C. testá conoideá, albidá, cingulis granorum confertis ornatá, granis nonnullis fusco punctatis; anfractibus convexis, ultimo rotundato; margine umbilici plicato-dentato; columellá callosá, plicis duabus transversis, basi dente triplicato terminatá; labro supernè inflexo, intus lirato; tuberculo magno trisulcato prope marginem superiorem.*
Hab. ——?

33. **CLANCULUS TURBINOIDES**, A. Adams. *C. testá turbinato-conoideá, fuscá, cingulis subdistantibus granorum ornatá; interstitiis lineis transversis prominulis; anfractibus rotundatis, suturá canaliculatá; basi cingulis concentricis granorum instructá;*

umbilico dentato; columellâ sulcatâ, margine reflexâ, tuberculis quatuor; labro intus lirato.

Hab. ——?

34. Clanculus stigmatarius, A. Adams. *C. testâ elevato-conicâ, cingulis confertis granorum ornatâ, lutescenti cingulo tertio et septimo granis albis et roseis subdistantibus, basi granis roseis ornatâ; umbilici margine subnodoso; columellâ crassâ, transversim subplicatâ, basi dente magno triplicato terminatâ; labro supra inflexo, intus lirato, tuberculo magno bisulcato prope marginem superiorem.*

Hab. Island of Corigidor, bay of Manila, coarse sand, 9 fathoms (*H. C.*).

35. Clanculus textilosus, A. Adams. *C. testâ conoideâ; spirâ acuminatâ, cingulis granorum inæqualibus ornatâ, primo, tertio et sexto coccineâ, secundo, quarto, quinto et septimo granis albis nigris alternantibus ornatâ; margine umbilici dentato; columellâ biplicatâ, margine acutâ, basi dente triplicato terminatâ; labro intus lirato, prope marginem superiorem tuberculo magno.*

Hab. Island of Ticao, sandy mud, 6 fathoms (*H. C.*).

36. Clanculus minor, A. Adams. *C. testâ parvâ, conicâ, albidâ, fasciis rufo-fuscis radiatim ornatâ; anfractibus planis, cingulis transversis granosis sculptâ, anfractu ultimo angulato, basi planiusculâ, margine umbilici crenulatâ; columellâ tuberculo decurvato terminatâ; labro intus lirato.*

Hab. Island of Masbate, sandy mud, 7 fathoms (*H. C.*).

37. Clanculus brunneus, A. Adams. *C. testâ depresso-conicâ, fuscâ, cingulis granorum subdistantibus ornatâ; interstitiis longitudinaliter elevatè striatis; anfractibus planiusculis, ultimo acutè angulato, umbilici margine planâ; columellâ transversim plicatâ, margine fimbriatâ, basi dente biplicato terminatâ; labro intus lirato, lirâ supremâ majore.*

Hab. ——?

38. Clanculus unedo, A. Adams. *C. testâ elevato-conoideâ; spirâ prominulâ, apice roseo, cingulis granorum confertis (in anf. ultim. quinque) ornatâ, coccineâ, cingulo secundo, quarto et quinto granis albis et nigris ornatis; umbilici margine plicato-crenulatâ; columellâ obliquâ, crassâ, margine reflexâ, basi dente magno triplicato terminatâ; labro intus lirato, supra tuberculo magno.*

Hab. ——?

39. Clanculus zebrides, A. Adams. *C. testâ conoideâ, fuscescenti, nigro-fusco radiatim pictâ, cingulis granorum sculptâ; interstitiis lineolis transversis elevatis; anfractibus rotundatis; umbilici margine crenulatâ; columellâ supra tuberculo, margine callosâ, basi tuberculo magno terminatâ; labro intus dentibus linearibus instructo.*

Hab. ——?

40. **Clanculus edentulus**, A. Adams. *C. testâ orbiculato-conoideâ, sordidè rufâ, albo variegatâ, cingulis transversis granosis sculptâ; anfractibus parum convexis; umbilici margine subcrenulatâ; columellâ supra plicatâ, infra edentulâ, margine infra tuberculis tribus; labro intus subsulcato.*
Hab. ——?

41. **Clanculus nigricans**, A. Adams. *C. testâ depresso-conicâ, umbilicatâ, nigricante; anfractibus planis cingulis quinque granulatis ornatâ, ultimo angulatâ, carinis planis duabus in parte inferiore, cingulis* 5–6 *articulatis sulcisque intermediis sculptâ; umbilici margine crenulato; columellâ rectâ, supernè solutâ, in parte superiore tuberculatâ, extus tuberculis tribus instructâ; labro intus lævi.*
Hab. ——?

42. **Clanculus carinatus**, A. Adams. *C. testâ conicâ, albidâ, flammulis rubris pictâ, anfractibus planis, cingulis inæqualibus confertis granorum ornatâ, supra suturam angulatâ, anfractu ultimo margine carinato, carinâ albo rufoque articulatâ; umbilici margine plano; columellâ rectâ, supra subcallosâ, basi dente simplici acuto terminatâ; labro intus sulcato.*
Hab. ——?

43. **Clanculus microdon**, A. Adams. *C. testâ orbiculato-conicâ, fuscâ, nigro-fusco maculatâ, cingulis granorum ornatâ; interstitiis lineis elevatis transversis; anfractibus rotundatis, basi cingulis subnodosis, rufo- et nigro-fusco articulatâ; umbilici margine dentato, dente superiore majore; columellâ supra flexuosâ, plicatâ, margine reflexo, sulcato-crenulato, basi dente parvo terminatâ; labro intus lirato.*
Hab. ——?

44. **Clanculus omalomphalus**, A. Adams. *C. testâ depresso-conicâ, pallidâ, fusco maculatâ, anfractibus paulum rotundatis, cingulis granorum ornatâ; interstitiis striis longitudinalibus, anfractu ultimo acutè carinato, carinâ albo rufoque articulatâ, basi planâ; umbilici margine plano; columellâ transversim plicatâ, margine reflexo dentato, basi dente biplicato terminatâ; labro intus lirato.*
Hab. Sydney (*Strange*).

45. **Clanculus gibbosus**, A. Adams. *C. testâ depresso-conicâ, pallidâ, fasciis fuscis radiatim dispositis ornatâ, cingulis transversis æqualibus granosis sculptâ; anfractibus rotundatis, suturâ profundâ, canaliculatâ, anfractu ultimo gibboso, infra subangulato; umbilici margine crenulato; columellâ plicatâ, margine reflexo supra dentato, basi dente magno biplicato terminatâ; labro intus corrugato-crenulato, supra inflexo, tuberculo magno instructo.*
Hab. New Ireland (*Jukes*).

46. Clanculus conspersus, A. Adams. *C. testâ orbiculato-conicâ, rufescente, albo rubroque variegatâ, cingulis moniliformibus transversis ornatâ, cingulo infra suturam majore, anfractu ultimo angulato; columellâ postice subcanaliculatâ vix tortuosâ, anticè plicâ magnâ transversâ terminatâ; labro intus valde dentato-lirato.*
Hab. ——?

47. Clanculus nodiliratus, A. Adams. *C. testâ depresso-turbinatâ, carneolâ, liris transversis nodulosis subdistantibus ornatâ; interstitiis longitudinaliter tenuissimè striatis; anfractibus subquadratis, margine umbilici dentato; columellâ rectâ, anticè tuberculo parvo terminatâ; labro intus lirato.*
Hab. ——?

Genus 9. Ziziphinus, Leach.

Calliostoma, Swains.—*Labio*, sp. Oken.—*Trochilus*, sp. Humph.

1. Ziziphinus vulgaris, Gray; Mrs. Gray, Fig. of Moll. An. p. 89.

Trochus ziziphinus, Linn. Syst. Nat. ed. 12. p. 1231.—*Trochus conulus*, Penn.—*Trochus zyziphinus*, Born.—*Trochus zezyphinus*, Chemn.—*Trochus discrepans*, Brown.—*Trochus Lyonsii*, Leach.—*Trochus albidus*, Wood.—*Trochus Sisyphinus*, Macgill.—*Trochus Sedgwickii*, Sow.—*Trochus conuloides*, Lamk.
Hab. British islands; Mediterranean; Norway, &c.

2. Ziziphinus conulus, Linn.

Trochus conulus, Linn. Syst. Nat. ed. 12. p. 1230.—*Trochus violaceus*, Risso.
Hab. British islands.

3. Ziziphinus alabastrum, Beck.

Margarita alabastrum, Beck; Lovén, Ind. Moll. Scandin. p. 20. —*Trochus occidentalis*, Mighels & Ad.—*Trochus formosus*, Forbes.
Hab. British islands.

4. Ziziphinus granulatus, Born.

Trochus granulatus, Born, Test. Mus. Cæs. Vind. p. 337. pl. 12. f. 9, 10.—*Trochus papillosus*, Da Costa.—*Trochus fragilis*, Pultney. —*Trochus tenuis*, Montague.
Hab. British islands.

5. Ziziphinus selectus, Chemn.

Trochus selectus, Chemn. Conch. xi. t. 196. f. 1896–97.—*Ziziphinus tigris*, Gray.
Hab. New Zealand.

6. Ziziphinus doliarius, Chemn.

Trochus doliarius, Chemn. Conch. x. t. 165. f. 1579–80.—*Ziziphinus canaliculatus*, Gray.
Hab. Australia; New Zealand.

7. Ziziphinus Cunninghami, Gray.

Ziziphinus Cunninghami, Gray, Brit. Mus.

Hab. ——?

8. Ziziphinus annulatus, Martyn.

Trochus annulatus, Martyn, Conch. i. t. 33.—*Trochus virgineus*, Gmel.

Hab. Monterey, California (*Hartweg*)

9. Ziziphinus granatum, Gmel.

Trochus granatum, Gmel.; Chemn. Conch. v. t. 170. f. 1654–55.

Hab. Australia, Port Essington (*Jukes*).

10. Ziziphinus ornatus, Lamk.

Trochus ornatus, Lamk. Hist. An. s. Vert. t. vii. p. 27.

Hab. ——?

11. Ziziphinus armillatus, Wood.

Trochus armillatus, Wood, Ind. Test. Suppl. pl. 5. f. 5.

Hab. ——?

12. Ziziphinus interruptus, Wood.

Trochus interruptus, Wood, Ind. Test. Suppl. pl. 6. f. 42.

Hab. ——?

13. Ziziphinus tranquebaricus, Chemn.

Trochus Tranquebaricus, Chemn. Conch. v. t. 166. f. 1595–96.

Hab. ——?

14. Ziziphinus pyramis, Gmel.

Trochus Pyramis, Gmel.; Chemn. Conch. v. pl. 170. f. 1652–53. —*Trochus crenulatus*, Brocc.—*Trochus Matonii*, Payr.—*Trochus punctatus*, Ren.—*Trochus conulus*, Donov.—*Trochus tricolor*, Risso.

Hab. ——?

15. Ziziphinus Montagui, Gray.

Trochus Montagui, Gray; Wood, Ind. Test. Suppl. pl. 6. f. 43.—*Trochus striatus*, Forbes.

Hab. British islands.

16. Ziziphinus indistinctus, Wood.

Trochus indistinctus, Wood, Ind. Test. Suppl. pl. 6. f. 41.

Hab. ——?

17. Ziziphinus pyramidatus, Lamk.

Trochus pyramidatus, Lamk. Hist. An. s. Vert. t. vii. p. 30.

Hab. ——?

18. Ziziphinus Langieri, Payraud.

Trochus Langieri, Payraud. Cat.

Hab. ——?

19. Ziziphinus jujubinus, Gmel.

Trochus jujubinus, Gmel.; Chemn. Conch. v. pl. . f. .

Hab. Java.

20. Ziziphinus filosus, Wood.

Trochus filosus, Wood, Ind. Test. Suppl. pl. 5. f. 23.—*Trochus castaneus*, Nuttall?—*Trochus ligatus*, Gould.

Hab. Straits of Juan de Fuco, Upper California.

21. Ziziphinus dubius, Philippi.

Trochus dubius, Phil. En. Moll. Sicil. ii. p. 149. t. 25. f. 7.

Hab. Sicily.

22. Ziziphinus gemmosus, Reeve.

Trochus gemmosus, Reeve, Proc. Zool. Soc. 1842; Conch. Syst. pl. 218. f. 9.

Hab. Puerto Galero, island of Mindanao, sandy mud, 6 fathoms.

23. Ziziphinus eximius, Reeve.

Trochus eximius, Reeve, Proc. Zool. Soc. 1842; Conch. Syst. pl. 218. f. 12.

Hab. ——?

24. Ziziphinus antonii, Koch.

Trochus Antonii, Koch; Phil. Abbild. Trochus, p. 2. t. 1. f. 4.

Hab. ——?

25. Ziziphinus exiguus, Pultney.

Trochus exiguus, Pultney Hutchins, Hist. Dorset, p. 44.—*Trochus erythroleucus*, Gmel.; Lamk.—*Trochus exasperatus*, Penn.—*Trochus erythroleucus*, Hanley.—*Trochus conulus*, Da Costa.—*Trochus minutus*, Chemn.; Dillw.

Hab. Mediterranean; British islands.

26. Ziziphinus striatus, Linn.

Trochus striatus, Linn. Syst. Nat. ed. 12. p. 1230.—*Trochus parvus*, Da Costa.—*Trochus conicus*, Donov.—*Trochus erythroleucus*, Maton & Rack.—*Trochus depictus*, Deshayes.—*Trochus Sartorii*, Arad & Magg.—*Trochus vittatus*, Lamk.

Hab. British islands.

27. Ziziphinus ciliaris, Menke.

Trochus ciliaris, Menke, Moll. Nov. Holl. p. 17; Phil. Abbild. Trochus, t. 7. f. 11.

Hab. ——?

28. Ziziphinus decoratus, Phil.

Trochus decoratus, Phil. Zeit. f. Malac. 1846, July, p. 102.

Hab. ——?

29. Ziziphinus lævigatus, Phil.

Trochus lævigatus, Phil. En. Moll. Sicil. v. 1. t. 11. f. 2.

Hab. Naples, rocky shores.

30. **Ziziphinus strigosus**, Gmel.

Trochus strigosus, Gmel.; Chemn. Conch. v. t. 170. f. 1651.—*Trochus callichrous*, Phil.

Hab. Morocco.

31. **Ziziphinus luridus**, Nuttall.

Trochus luridus, Nuttall.

Hab. Fayal.

32. **Ziziphinus bicingulatus**, Lamk.

Trochus bicingulatus, Lamk. Hist. An. s. Vert. tom. vii. p. 27.—*Trochus vinctus*, Phil.

Hab. Rains Island (*Ince*).

33. **Ziziphinus millegranus**, Phil.

Trochus millegranus, Phil. En. Moll. Sicil. v. 1. p. 183. pl. 10. f. 25. —? *Trochus Clelandi*, Wood.—*Trochus Martini*, Smith.—*Trochus miliaris*, Scacc.

Hab. ——?

34. **Ziziphinus agrestis**, Phil.

Trochus agrestis, Phil. Abbild. p. 33, Trochus, t. 1. f. 6.

Hab. Singapore, fine sand, 6 fathoms (*H. C.*).

35. **Ziziphinus chlorostomus**, Menke.

Trochus chlorostomus, Menke, Spec. Moll. Nov. Holl. p. 17; Phil. Abbild. Trochus, t. 2. f. 8.

Hab. New Holland.

36. **Ziziphinus perspectivus**, Koch.

Trochus perspectivus, Koch; Phil. Abbild. Trochus, p. 2. t. 1. f. 5.

Hab. ——?

37. **Ziziphinus miniatus**, Anton.

Trochus miniatus, Anton, Verzeich. p. 58; Phil. Abbild. Trochus, t. 1. f. 7.

Hab. ——?

38. **Ziziphinus gilvus**, Phil.

Trochus gilvus, Phil.

Hab. ——?

39. **Ziziphinus metaformis**, Phil.

Trochus metaformis, Phil.; Kust. Conch. Cab. t. 43. f. 13.

Hab. ——?

40. **Ziziphinus zonamestus**, A. Adams. *Z. testâ obliquè pyramidali, umbilicatâ, carneâ, cingulis transversis granosis permultis ornatâ; interstitiis purpurascentibus, striis obliquis longitudinalibus; anfractibus planis, supra suturas angulatis, ultimo acutè angulato, basi plano-concavâ, cingulis granulatis insculptâ; umbi-*

lico magno, infundibuliformi, intus albo; aperturâ rhomboideâ, intus albâ; columellâ rectâ, basi truncatâ.

Hab. Honduras (*Dyson*).

41. Ziziphinus ticaonicus, A. Adams. *Z. testâ elevato-conicâ, perforatâ, luteâ vel carneâ, liris transversis rufo articulatis prope suturas ornatâ; anfractibus paulum rotundatis, longitudinaliter striatis, apice atro-purpureo; anfractu ultimo subangulato, basi convexiusculâ, cingulis rufo-articulatis insculptâ; aperturâ subquadratâ; columellâ rectâ, anticè subtruncatâ; aperturâ intus albâ.*

Hab. Island of Ticao, sandy mud, 6 fathoms (*H. C.*).

42. Ziziphinus japonicus, A. Adams. *Z. testâ turrito-conicâ, lævi, nitidâ, imperforatâ; anfractibus planis, basi lineis duabus impressis, ultimo angulato, rubrâ flammulis fuscis et albidis ornatâ, basi convexâ, cingulis articulatis insculptâ; aperturâ subquadratâ, intus viride iridescenti.*

Hab. Japan.

43. Ziziphinus elegantulus, A. Adams. *Z. testâ conicâ, imperforatâ, lutescenti; anfractibus planis, lineis elevatis distantibus granulatis moniliformibus violaceis alternis minoribus cinctâ; interstitiis longitudinaliter striatis; basi planiusculâ, cingulis quatuor violaceis ornatâ; aperturâ subquadratâ, intus albâ; columellâ basi subtruncatâ.*

Hab. Malacca, coral sand, 10 fathoms (*H. C.*).

44. Ziziphinus decussatus, A. Adams. *Z. testâ elevato-conicâ, subperforatâ, albidâ, maculis viridibus longitudinalibus ornatâ; anfractibus planis, basi marginatis, prominulis; cingulis transversis granulatis lineisque elevatis longitudinalibus decussatè insculptâ; anfractu ultimo angulato, basi convexiusculâ, cingulis granulatis ornatâ; aperturâ subquadratâ; columellâ rectâ, basi truncatâ.*

Hab. Calipan, Mindoro, coarse gravel, 12 fathoms (*H. C.*).

45. Ziziphinus rubropunctatus, A. Adams. *Z. testâ parvâ, orbiculato-conicâ, lutescenti; cingulis transversis spinulosis ornatâ (in anfractu ultimo quatuor), interstitiis clathratis pulcherrimè rubro-punctulatis.*

Hab. ——?

46. Ziziphinus unicinctus, A. Adams. *Z. testâ turrito-conicâ, imperforatâ, luteolâ; anfractibus planis, subimbricatis, basi cingulis prominulis rubro-articulatis lineisque transversis confertis ornatis; anfractu ultimo angulato, basi productâ, lineis concentricis et cingulâ elevatâ articulatâ sculptâ; aperturâ subtrigonâ; columellâ rectâ, basi subcanaliculatâ.*

Hab. Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (*H. C.*).

47. **Ziziphinus nebulosus**, A. Adams. *Z. testâ conoideâ, imperforatâ, rufo-fuscâ albo variegatâ; anfractibus planiusculis, cingulis inæqualibus granorum ornatâ, ultimo subangulato, basi convexiusculâ, cingulis subgranulosis rufo alboque articulatis ornatâ; aperturâ subtetragonâ; columellâ albâ, incurvatâ, basi subtruncatâ; labro intus lirato.*

Hab. Rains Island (*Ince*).

48. **Ziziphinus picturatus**, A. Adams. *Z. testâ turrito-conicâ, imperforatâ, viridi aut violaceâ, fasciis undulatis lineisque ziczaciformibus ornatâ; anfractibus planis, basi marginatis crenulatis, lineis impressis transversis sculptâ; anfractu ultimo angulato, basi convexiusculâ; aperturâ subquadratâ, intus albâ; columellâ incurvâ, basi truncatâ.*

Hab. Delaguete, island of Negros, sandy mud, 7 fathoms (*H. C.*).

49. **Ziziphinus asperulatus**, A. Adams. *Z. testâ conicâ, imperforatâ, albidâ, maculis purpureis radiatim ornatâ; anfractibus planiusculis, in medio carinatis, cingulis inæqualibus ornatâ, superioribus granulatis, inferioribus subplanis; anfractu ultimo subangulato, basi planâ, cingulis planis insculptâ; regione umbilicali depressâ, callo obtectâ; aperturâ subrotundâ; columellâ rectâ basi truncatâ; labro intus lirato.*

Hab. ——?

50. **Ziziphinus polychroma**, A. Adams. *Z. testâ turrito-conicâ, perforatâ, viridi, fasciis albidis undulatis, lineis luteis angulatis variè pictâ; anfractibus planis, subimbricatis; basi marginatis articulatis prominulis, lineis transversis subdistantibus impressis ornatâ, longitudinaliter substriatâ; anfractu ultimo angulato, basi convexiusculâ, cingulis luteo articulatis insculptâ; aperturâ subquadratâ, intus viridi; columellâ rectâ, basi subtruncatâ.*

Hab. Island of Masbate, sandy mud, 7 fathoms (*H. C.*).

51. **Ziziphinus duplicatus**, A. Adams. *Z. testâ turrito-conicâ, imperforatâ; anfractibus convexis cingulis granorum ornatâ; basi cingulis duabus majoribus prominentibus instructis; interstitiis longitudinaliter striatis; anfractu ultimo subrotundato, basi convexiusculâ, cingulis granorum insculptâ; aperturâ subrotundatâ; labro intus lirato; columellâ basi tuberculo terminatâ.*

Hab. ——?

52. **Ziziphinus californicus**, A. Adams. *Z. testâ elevato-conicâ, imperforatâ, rufescenti; anfractibus subrotundatis, supra excavatis, liris transversis granulosis, duabus, supra suturam, majoribus; anfractu ultimo subrotundato, basi convexiusculâ; aperturâ subquadratâ; columellâ rectâ, anticè subtuberculatâ.*

Hab. California. (Mus. Cuming.)

Genus 10. CANTHIRIDUS, Montfort.

Eleuchus, sp. Humph.; Swains.—*Phasianella,* c., Menke.—*Trochus,* sp. Philippi.

1. CANTHIRIDUS IRIDIS, Chemn.

Trochus iridis, Chemn. Conch. v. t. 161. f. 1522–23.—*Trochus iris,* Gmel.

Hab. ——?

2. CANTHIRIDUS PURPURATUS, Martyn.

Trochus purpuratus, Martyn; Chemn. v. t. 161. f. 1524–25.—*Trochus notatus,* Gmel.—? *Trochus elegans,* Gmel.—? *Phasianella rubella.*

Hab. ——?

3. CANTHIRIDUS NITIDULUS, Phil.

Trochus nitidulus, Phil.; Kust. Conch. Cab. pl. 43. f. 10.

Hab. ——?

4. CANTHIRIDUS CINGULIGER, A. Adams. *C. testâ elevato-conicâ, cinereâ, punctis fuscis in lineis flammulatis dispositis, transversim sulcatâ; anfractibus planis, cingulâ prominenti supra suturam, anfractu ultimo angulato, cingulo plano cincto; umbilico subobtecto; columellâ rectâ; labro intus albo, lævi.*

Hab. ——?

5. CANTHIRIDUS PUNCTULOSUS, A. Adams. *C. testâ elevato-conicâ, imperforatâ, lævi, nitidâ, cinereâ, transversim sulcatâ; cingulis transversis, luteo alboque punctatis nigro-maculatis ornatâ; anfractibus planis, ultimo acutè angulato; regione umbilicali roseâ; aperturâ subquadratâ; columellâ albâ, rectâ, anticè subtruncatâ; labro intus lævi, limbo punctulato.*

Hab. Swan River, 4 fathoms (*Jukes*).

6. CANTHIRIDUS ZEALANDICUS, A. Adams. *C. testâ obliquè conicâ, subturritâ, imperforatâ, lævi, nitidâ; atro-purpureâ, lineis pallidis transversis, ubique cinctâ; anfractibus paulum convexis; aperturâ obliquâ, subrotundatâ; labio albo, simplici, arcuato; labro intus sulcato, margaritaceo, vividè iridescenti.*

Hab. New Zealand.

7. CANTHIRIDUS MONILIGER, A. Adams. *C. testâ elevato-conicâ, imperforatâ, cinereâ, cingulis moniliformibus transversis ornatâ; interstitiis longitudinaliter elevatè striatis; anfractibus planis, apice purpureo, suturâ canaliculatâ; anfractu ultimo angulato; aperturâ subquadratâ; columellâ anticè subtruncatâ; labro intus sulcato.*

Hab. Swan River, 8 fathoms (*Jukes*).

8. CANTHIRIDUS ARTICULARIS, A. Adams. *C. testâ elevato-conicâ, lævi, nitidâ, cinereâ; cingulis confertis, nigro alboque*

articulatis ornatâ; interstitiis longitudinaliter striatis; anfractibus planis, ultimo angulato, basi planiusculâ, cingulis articulatis sculptâ; aperturâ subquadratâ; columellâ anticè subtruncatâ; labro intus lævi, limbo articulato.
Hab. ——?

9. **Canthiridus artizona**, A. Adams. *C. testâ elevatè conoideâ, pallidâ; cingulis carneolis angustis elevatis transversis ornatâ; interstitiis transversim striatis; anfractu ultimo angulato; aperturâ intus viridescenti; labro intus lirato, limbo rufo articulato.*
Hab. ——?

10. **Canthiridus rufozona**, A. Adams. *C. testâ conoideâ, pallidâ, cingulis rubris transversis interstitiis planis ornatâ; anfractu ultimo rotundato; labro intus albo, lævi, limbo rufo-articulato; columellâ albâ.*
Hab. ——?

11. **Canthiridus tenebrosus**, A. Adams. *C. testâ parvâ, elevato-conicâ, imperforatâ, subnigrâ, transversim sulcatâ, sulcis albicantibus planis; anfractibus paulum convexis, ultimo subangulato, basi convexâ; aperturâ subrotundatâ, intus albâ, margaritaceâ; labro intus sulcato.*
Hab. ——?

12. **Canthiridus nigricans**, A. Adams. *C. testâ depresso-conicâ, atro-purpureâ, cingulis elevatis transversis ornatâ; interstitiis longitudinaliter obliquè striatis; anfractu ultimo subangulato; labro intus albo, sublævi, limbo nigro.*
Hab. ——?

13. **Canthiridus pallidulus**, A. Adams. *C. testâ elevato-conicâ, imperforatâ, pallidâ; cingulis transversis elevatis luteo-articulatis ornatâ; interstitiis concinnè longitudinaliter striatis; columellâ subrectâ, in medio tumidâ; labro intus lirato.*
Hab. Australia.

Genus 11. Eleuchus, Swains.

Phasianella, d., Menke.—*Canthiridus*, sp. Gray.

1. **Eleuchus badius**, Wood.
Trochus badius, Wood, Ind. Test. Suppl. pl. 6. fig. 46.
Hab. ——?

2. **Eleuchus roseus**, Lamk.
Monodonta rosea, Lamk. Hist. An. s. Vert. t. vii. p. 37.
Hab. ——?

3. **Eleuchus lineatus**, Lamk.
Monodonta lineata, Lamk. Hist. An. s. Vert. t. vii. p. 38.
Hab. ——?

4. **Eleuchus irisodontes**, Quoy & Gaim.

Trochus irisodontes, Quoy & Gaim. Voy. de l'Astr. iii. p. 246. t. 63. f. 7–12.—*Monodonta virgata*, Menke.

Hab. ——?

5. **Eleuchus bellulus**, Dunker.

Trochus bellulus, Dunker; Phil. Abbild. t. 7. f. 6.

Hab. ——?

6. **Eleuchus apicinus**, Menke.

Monodonta apicina, Menke, Moll. Nov. Holl. sp. p. 15.

Hab. ——?

7. **Eleuchus leucostigma**, Menke.

Trochus leucostigma, Menke; Phil. Abbild. t. 7. f. 7.—*Phasianella leucostigma*, Menke.—*Canthiridus variegatus*, Gray.

Hab. ——?

8. **Eleuchus australis**, Quoy & Gaim.

Trochus australis, Quoy & Gaim. Voy. de l'Astr. pl. 63. f. 13, 14.

Hab. ——?

9. **Eleuchus splendidulus**, Swains.

Eleuchus splendidulus, Swains. Treatise on Malacol. p. .

Hab. ——?

10. **Eleuchus vulgaris**, A. Adams. *E. testâ ovato-conoideâ, subturritâ, imperforatâ, lævigatâ, virenti, transversim tenuissimè striatâ; lineis undulatis viridis pictâ, basi convexâ; aperturâ ovatâ; columellâ basi dente acuto terminatâ; labro posticè subangulato.*

Hab. Swan River.

11. **Eleuchus rutilus**, A. Adams. *E. testâ turrito-conicâ, imperforatâ; spirâ acuminatâ, virido-fuscâ, lineis longitudinalibus rufescentibus ornatâ, transversim striatâ; anfractu ultimo vix angulato; aperturâ intus vividè iridescente; labro viridi marginato.*

Hab. Australia.

Genus 12. Bankivia, Deshayes.

1. **Bankivia purpurascens**, Beck.

Bankivia purpurascens, Beck; Deshayes, Manuel de Conchyliologie.—*Bankivia varians*, Gray, MS. Mus. Brit.

Hab. Australia.

2. **Bankivia major**, A. Adams. *B. testâ ovato-turritâ, nigrofuscâ albo variegatâ, lævigatâ, longitudinaliter obliquè striatâ; anfractu ultimo ventricoso, transversim sulcato; columellâ albâ, tortuosâ.*

Hab. Australia. Mus. Cuming.

3. Bankivia nitida, A. Adams. *B. testâ turritâ, acuminatâ, carneolâ, suturis nigricantibus, lævi, nitidâ, transversim tenuissimè striatâ; columellâ anticè tortuosâ; labro ad marginem nigricante.*
Hab. Australia. Mus. Cuming.

Genus 13. Thalotia, Gray.

Elenchus, sp. Humph.—*Helenchus*, Herman.

1. Thalotia picta, Wood.
Trochus pictus, Wood, Ind. Test. Suppl. pl. 5. f. 28.—*Thalotia picta*, Gray.—*Monodonta turrita*, Menke.
Hab. New Holland.

2. Thalotia pulcherrima, Wood.
Trochus pulcherrimus, Wood, Ind. Test. Suppl. pl. 6. f. 45.—*Trochus Preissii*, Menke.—*Trochus porcatus*, Philippi.
Hab. New Zealand.

3. Thalotia australis, Quoy et Gaim.
Trochus australis, Quoy et Gaim. Voy. de l'Astrol. pl. 63. f. 13, 14.
Hab. Australia.

4. Thalotia Lehmanni, Menke.
Trochus Lehmanni, Menke, Moll. Nov. Holl. sp. p. 18.—?*Phasianella elegans*, Lamarck.
Hab. New Holland.

5. Thalotia elongata, Wood.
Trochus elongatus, Wood, Ind. Test. Suppl. pl. 5. f. 19.—*Trochus attenuatus*, Jonas.
Hab. ——?

6. Thalotia obscura, Wood.
Trochus obscurus, Wood, Ind. Test. Suppl. pl. 5. f. 26.—*Trochus signatus*, Jonas.
Hab. ——?

7. Thalotia pyrgos, Phil.
Trochus pyrgos, Phil. Kust. Conch. Cab. pl. 43. f. 14.
Hab. ——?

8. Thalotia zebuensis, A. Adams. *Th. testâ elevato-conoideâ, perforatâ, atro-fuscâ, fasciis longitudinalibus ornatâ, transversim sulcatâ; anfractibus planulatis, ultimo rotundato, basi convexâ; labio subrecto, anticè reflexo, dilatato; aperturâ subcirculari, intus albâ; labro intus lævi, atro-marginato.*
Hab. San Nicholas, island of Zebu, sandy mud, 6 fathoms (*H.C.*).

9. Thalotia strigata, A. Adams. *Th. testâ turrito-conicâ, perforatâ, albidâ, fasciis latis rufo-fuscis radiatâ; anfractibus in*

medio angulatis porcis transversis subgranulosis, interstitiis longitudinaliter striatis ornatâ, basi convexâ, concentricè porcatâ; umbilico aperto; aperturâ subrotundatâ; columellâ subflexuosâ, basi truncatâ; labro intus lirato, margine crenulato.

Hab. Swan Point, N. Australia (*Dring*).

10. Thalotia zebrides, A. Adams. *Th. testâ turrito-conicâ, subperforatâ, virescenti, lineis atro-purpureis longitudinalibus ornatâ, porcis transversis confertis sculptâ, longitudinaliter striatâ, basi convexâ; umbilico subobtecto; columellâ sinuatâ, callo terminatâ; labro intus lirato, margine atro-purpureo articulato.*

Hab. ——?

11. Thalotia suturalis, A. Adams. *Th. testâ conicâ, subperforatâ, virescenti, lineis purpureis longitudinalibus undulatis ornatâ, transversim liratâ, longitudinaliter striatâ; anfractibus planis, supra suturam elevatis; suturâ canaliculatâ, basi planiusculâ; columellâ brevi, basi tuberculo terminatâ; labro intus lævi, viridi.*

Hab. Cape Upstart, Torres Straits, Australia, under stones, low water (*Dring*).

12. Thalotia tricingulata, A. Adams. *Th. testâ conicâ, imperforatâ, nigrâ, lineis albis longitudinalibus ornatâ; anfractibus angulatis, ultimo cingulis tribus transversis prominentibus instructo, basi convexâ, cingulis concentricis nigro alboque articulatis ornatâ; labio ad basin tuberculato; aperturâ subrotundatâ, intus albâ; labro intus liris elevatis, atro-marginato.*

Hab. ——?

13. Thalotia crenellifera, A. Adams. *Th. testâ elevato-conicâ, imperforatâ, rufescente, rubro maculosâ; spirâ acuminatâ, apice rubro; anfractibus planulatis, liris confertis, crenellatis, transversis, interstitiis obliquè longitudinaliter striatis; anfractu ultimo subangulato, basi convexiusculâ; aperturâ subquadratâ, intus albâ; columellâ albâ, incurvatâ, anticè truncatâ.*

Hab. Australia. Mus. Cuming.

Genus 14. Monodonta, Lamarck.

Monodon, Schweiger.—*Monodontes*, Montfort.—*Odontis*, Sow.—*Trochidon*, Swains.--*Diloma*, Phil.—*Trochulus*, sp. Humph.

1. Monodonta labio, Linn.

Trochus Labio, Linn. Syst. Nat. ed. 12. no. 595. p. 1230; Chemn. Conch. pl. 166. fig. 1579–81. v. p. 60.

Hab. ——?

2. Monodonta turbinata, Gmel.

Trochus turbinatus, Gmel. t. 63. f. D. E.

Hab. ——?

3. MONODONTA ASPERA, Chemn.
Trochus asper, Chemn. v. pl. 166. f. 3582.
Hab. ——?

4. MONODONTA CANALIFERA, Lamck.
Monodonta canalifera, Lamck. Hist. An. s. Vert. tom. vii. p. 35.
Hab. ——?

5. MONODONTA AUSTRALIS, Lamck.
Monodonta australis, Lamck. Hist. An. s. Vert. tom. vii. p. 35; Chemn. Conch. ii. t. 196. f. 1890, 1891.
Hab. ——?

6. MONODONTA ATRATA, Gmel.
Turbo atratus, Gmel. 3601; Chemn. Conch. pl. 177. f. 1754, 1755. —*Monodonta canaliculata,* Lamck.—*Monodonta Fermoni,* Payr.
Hab. Island of Ticao, on stones on the reefs, low water (*H. C.*).

7. MONODONTA VIRIDIS, Lamck.
Monodonta viridis, Lamck. Hist. An. s. Vert. tom. vii. p. 35.
Hab. Port Essington (*Jukes*).

8. MONODONTA TRICARINATA, Lamck.
Monodonta tricarinata, Lamck. Hist. An. s. Vert. vii. p. 36.
Hab. ——?

9. MONODONTA BACCATA, Menke.
Monodonta baccata, Menke, Moll. Nov. Holl. sp. p. 14. no. 51.
Hab. New Holland.

10. MONODONTA DUNKERI, Koch.
Monodonta Dunkeri, Koch, Phil. Abbild. Trochus, tab. 2. f. 5.
Hab. ——?

11. MONODONTA PHILIPPII, Koch.
Monodonta Philippii, Koch, Phil. Abbild. Trochus, tab. 2. f. 6.
Hab. ——?

12. MONODONTA CRENULATA, Menke.
Monodonta crenulata, Menke, Moll. Nov. Holl. sp. p. .
Hab. ——?

13. MONODONTA ASPERSA, Koch.
Trochus aspersus, Koch, Zeit. fur Malac. 1846, July, p. 103.
Hab. ——?

14. MONODONTA INDECORA, Phil.
Trochus indecorus, Phil. Zeit. fur Malac. 1846, July, p. 104.
Hab. ——?

15. MONODONTA GEMMATA, Gould.
Trochus (*Monodonta*) *gemmatus,* Gould, Exp. Shells, p. .
Hab. Sandwich Islands.

16. **Monodonta inconspicua**, Phil.

Trochus (*Monodonta*) *inconspicuus*, Phil. Kust. Conch. Cab. t. 43. f. 12.

Hab. ——?

17. **Monodonta rugulosa**, A. Adams. *M. testâ ovato-conoideâ, depressâ, atro-fuscâ, fasciis latis luteo-albis irregulariter pictâ, cingulis rotundatis interruptis ornatâ; columellâ basi bituberculatâ, canali parallelo instructâ, dente magno acuto terminatâ; labro duplicato, intus lirato.*

Hab. ——?

18. **Monodonta circumcincta**, A. Adams. *M. testâ ovato-conoideâ, imperforatâ, lævi, nitidâ, crassâ, cingulis rubris albo viridi maculatis alternantibus pictâ; anfractibus convexis; columellâ basi tuberculatâ, dente magno acuto terminatâ; labro duplicato, intus lirato.*

Hab. Island of Ticao, on the stones on reefs at low water (*H. C.*).

19. **Monodonta tuberculata**, A. Adams. *M. testâ ovato-conoideâ, imperforatâ, crassâ, viridescenti, cingulis tuberculorum oblongorum violaceorum ornatâ; anfractibus convexis; columellâ basi trituberculatâ, canali parallelo instructâ, dente prominente acuto terminatâ; labro duplicato, intus lirato.*

Hab. ——?

Subgenus **Aradasia**, Gray.

Operculum suborbicular, paucispiral.

Aradasia, Gray, in Mrs. Gray's Figures of Molluscous Animals, p. 90. —? *Otavia*, Cantr.

20. **Monodonta sulcifera**, A. Adams. *M. testâ globoso-conicâ, umbilicatâ, fuscâ, cingulis granorum distantium moniliformibus, interstitiis profundè sulcatis, sulcis sublævibus longitudinaliter striatis ornatâ; columellâ ad basin trisulcatâ, dente parvo acuto instructâ; labro tenui, intus sulcato.*

Hab. Roebuck Bay, North Australia (*Dring*).

21. **Monodonta clathrata**, A. Adams. *M. testâ ovato-conoideâ, albâ, imperforatâ, cingulis subgranosis distantibus ornatâ, in anfractu ultimo septem, interstitiis costulis longitudinalibus eleganter clathratis; columellâ tuberculo parvo terminatâ; labro intus sulcato.*

Hab. Guidulman, island of Bohol, rocky ground, 60 fathoms (*H. C.*).

22. **Monodonta tricingulata**, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, rubente, albo et fusco variegatâ, cingulis parvulis granorum ornatâ; suturâ canaliculatâ; anfractibus convexis, carinis tribus transversis prominentibus cinctis; umbilico profundo; columellâ ad basin tuberculo parvo terminatâ; labro expanso, tenui, intus lævi.*

Hab. Malacca; Singapore, fine sand, 6 fathoms (*H. C.*).

23. **Monodonta philippina**, A. Adams. *M. testâ globoso-conicâ, perforatâ, fuscâ nigro punctatâ; cingulis granulatis inæqualibus ornatâ, interstitiis clathratulis; umbilico parvo; columellâ tuberculo parvo terminatâ; labro intus sulcato.*

Hab. Puerto Galero, island of Mindoro, in coarse sand, 9 fathoms; Bolinao, province of Zambales, island of Luzon, sandy mud, 10 fathoms (*H. C.*).

24. **Monodonta edentula**, A. Adams. *M. testâ ovato-conoideâ, umbilicatâ, fuscâ, costellis transversis imbricatis, interstitiis clathratis sculptâ; anfractibus valde rotundatis; umbilico infundibuliformi; columellâ subrectâ, basi tuberculo terminatâ; labro margine crenulato.*

Hab. Catbalonga, island of Samar, sandy mud, 6 fathoms (*H. C.*). Mus. Cuming.

25. **Monodonta foveolata**, A. Adams. *M. testâ globoso-conoideâ, subperforatâ, crassâ, albâ, cingulis transversis nodulosis subdistantibus (in anfractu ultimo septem), interstitiis costellis longitudinalibus foveolatis ornatâ; columellâ dente minuto terminatâ; labro intus crasso et lirato.*

Hab. Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (*H. C.*). Mus. Cuming.

26. **Monodonta exigua**, A. Adams. *M. testâ parvâ, conoideâ, umbilicatâ, albidâ fusco variegatâ, cingulis transversis granulosis interstitiis longitudinaliter liratis ornatâ; anfractibus parum convexis, ultimo subangulato; umbilico recto, dente valido acuto terminatâ; labro intus sulcato.*

Hab. Japan (*Siebold*).

27. **Monodonta rubra**, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, rubrâ, cingulis transversis granorum moniliformibus æquantibus interstitiis lineis longitudinalibus impressis ornatâ; anfractibus rotundatis, suturâ canaliculatâ, umbilico magno; columellâ rectâ, dente prominente terminatâ; labro intus crasso, sulcato.*

Hab. —— ?

28. **Monodonta alveolata**, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, albidâ, fasciis fuscis longitudinalibus undulatis pictâ, cingulis transversis granorum acutorum interstitiis costis longitudinalibus alveolatis ornatâ; suturâ canaliculatâ; umbilico angusto; columellâ rectâ, dente valido terminatâ; labro intus valde lirato.*

Hab. Guidulman, island of Bohol, rocky ground, 60 fathoms; Baclayon, island of Bohol, under stones, low water; island of Capul, on the reefs at low water (*H. C.*). Mus. Cuming.

29. **Monodonta angulifera**, A. Adams. *M. testâ elevato-conoideâ, imperforatâ; anfractibus planiusculis, imbricatis, infernè angulatis, longitudinaliter nodoso-costatis, cingulis trans-*

versis tuberculorum subdistantium interstitiis alveolatis ornatâ; anfractu ultimo subangulato; columellâ rectâ, brevi, dente parvo terminatâ; labro subduplicato, intus sulcato.

Hab. Puerto Galero, island of Mindoro, sandy mud, 6 fathoms (*H. C.*). Mus. Cuming.

30. Monodonta strangei, A. Adams. *M. testâ conoideâ, perforatâ, fuscâ, cingulis granorum æqualibus confertis ornatâ; anfractibus parum convexis, ultimo subangulato; columellâ curvatâ, dente obtuso terminatâ; labro intus sulcato, tuberculo propè basin columellæ.*

Hab. Sydney, under stones (*Strange*).

31. Monodonta punctigera, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, albâ fusco punctatâ, cingulis granulosis inæqualibus rufo-punctatis ornatâ; suturâ canaliculatâ; anfractibus rotundatis; umbilico aperto, infundibuliformi; columellâ rectâ, brevi, basi bituberculatâ, dente parvo acuto terminatâ; labro expanso, intus sulcato.*

Hab. Singapore, fine sand, 6 fathoms (*H. C.*). Mus. Cuming.

32. Monodonta exasperata, A. Adams. *M. testâ globoso-conoideâ, umbilicatâ, subdepressâ, albidâ nigro-variegatâ, cingulis spino-granulatis exasperatâ; columellâ sinuatâ, dente prominenti terminatâ; labro incrassato, duplicato, intus valde lirato.*

Hab. Sibonga, island of Zebu, at low water (*H. C.*); island of Siquijor, under stones. Mus. Cuming.

33. Monodonta spilota, A. Adams. *M. testâ parvâ, ovato-depressâ, conoideâ, imperforatâ, lævi, nitidâ, viridi, maculis pallidis triangularibus; columellâ planâ, albâ, canali parallelo instructâ, dente obtuso terminatâ; labro duplicato, intus lirato.*

Hab. ——?

34. Monodonta lirostoma, A. Adams. *M. testâ elevato-conicâ, imperforatâ, albidâ; anfractibus planis, cingulis tribus granulatis, interstitiis valde clathratis; suturâ canaliculatâ; anfractu ultimo angulato; columellâ tuberculatâ; labro intus valde lirato.*

Hab. Lord Hood's Island, on pearl oysters, 8 to 10 fathoms (*H.C.*). Mus. Cuming.

Genus 15. Labio, Oken.

Osilinus, Philippi.—*Trochius*, Leach.—*Gibbium*, Gray.—*Monodonta*, sp. Lamck.—*Melagraphia*, Steutz.

1. Labio constricta, Lamck.

Monodonta constricta, Lamck. Hist. An. s. Vert. tom. vii. p. 36.—*Monodonta interrupta*, Menke (olim).—*L'Oslin*, Adanson.

Hab. Australia.

2. **Labio tessellata**, Chemn.

Trochus tessellatus, Chemn. Conch. t. 166. f. 1583–87.—*Trochus tessellatus*, Born.—*Monodonta fragarioides*, Lamck.—*Monodonta Olivieri*, Payr.

Hab. New Zealand.

3. **Labio zebra**, Wood.

Trochus zebra, Wood, Ind. Test. Suppl. pl. 5. f. 18.—*Trochus atratus*, Wood.

Hab. ——?

4. **Labio reticularis**, Wood.

Trochus reticularis, Wood, Ind. Test. Suppl. pl. 5. f. 35.—*Turbo lunaris*, &c., Chemn. Conch. pl. 185. f. 1849.—*Tr. concameratus*, Wood.

Hab. New Zealand and Australia.

5. **Labio articulata**, Lamck.

Monodonta articulata, Lamck. Hist. An. s. Vert. tom. vii. p. 36.—*Monodonta Draparnaudii*, Payr.

Hab. Malta.

6. **Labio sulcata**, Wood.

Trochus sulcatus, Wood, Ind. Test. Suppl. pl. 6. f. 40.

Hab. New Zealand (*Earl*).

7. **Labio tæniata**, Quoy et Gaim.

Trochus tæniatus, Quoy et Gaim. Voy. de l'Astrol. p. 249. pl. 63. f. 15–17.

Hab. New Zealand.

8. **Labio striolata**, Quoy et Gaim.

Trochus striolatus, Quoy et Gaim. Voy. de l'Astr. p. 253. pl. 63. f. 18–22.

Hab. Australia.

9. **Labio zealandica**, Quoy et Gaim.

Trochus Zealandicus, Quoy et Gaim. Voy. de l'Astr. p. 237. pl. 64. f. 12–15.

Hab. New Zealand.

10. **Labio cingulata**, Quoy et Gaimard.

Trochus cingulatus, Quoy et Gaim. Voy. de l'Astr. p. 259. pl. 64. f. 16–20.—*Trochus radula*, Philippi.

Hab. New Zealand.

11. **Labio nigerrima**, Gmel.

Turbo nigerrimus, Gmel. Chemn. v. pl. 185. f. 1848.

Hab. New Zealand (*Earl*).

12. **Labio subrostrata**, Gray.

Monodonta subrostrata, Gray.

Hab. Australia.

13. **Labio melanoloma**, Menke.

Monodonta melanoloma, Menke, Moll. Nov. Holl. specim. p. 14. no. 50.—*Trochus melanonowa*, Phil. Abbild. p. 22.

Hab. New Zealand.

14. **Labio tamsii**, Dunker.

Trochus Tamsii, Dunker, Phil. Abbild. Trochus, t. 5. f. 3.

Hab. South Africa; Guinea; Cape of Good Hope.

15. **Labio scorpio**, Gray.

Monodonta scorpio, Gray.

Hab. New. Zealand.

16. **Labio pica**, Chemn.

Turbo pica, Chemn. Conch. v. pl. 175. f. 1850.—*Trochus zebrinus*, Philippi.

Hab. New Zealand.

17. **Labio lineata**, Da Costa.

Turbo lineatus, Da Costa, Brit. Conch. p. 100. pl. 6. f. 7.—*Trochus crassus*, Pultney.—*Monodonta lugubris*, Lamk.—*Trochus punctulatus*, Blainv.—*Monodonta crassa*, MacGill.—*Trochus lineatus*, Forbes & Hanley.

Hab. British Islands.

18. **Labio turgestina**, Phil.

Trochus turgestinus, Phil. Kust. Conch. Cab.

19. **Labio indecora**, Phil.

Trochus indecorus, Phil. Kust. Conch. Cab.

20. **Labio fulgurata**, Phil.

Trochus fulguratus, Phil. Kust. Conch. Cab.

21. **Labio crinitus**, Phil.

Trochus crinitus, Phil. Kust. Conch. Cab.

22. **Labio porcata**, A. Adams. *L. testâ ovato-conoideâ, imperforatâ, fuscâ albo reticulatâ; anfractibus convexis, transversim carinatis, carinis numerosis, elevatis, distantibus; labio albo, infernè subcalloso; labro intus sulcato.*

Hab. Australia.

23. **Labio porcifera**, A. Adams. *L. testâ orbiculato-conicâ, imperforatâ, fulvescente, liris transversis æquidistantibus nigro-articulatis ornatâ; longitudinaliter obliquè striatâ; labio plano, regione umbilicali impresso; columellâ tuberculis duobus, inferiore majore; labro intus duplicato, margine luteo nigro-articulato.*

Hab. ——?

24. **Labio rudis**, A. Adams. *L. testâ orbiculato-conicâ, imperforatâ; spirâ obtusâ, lutescente, lineis transversis nigris ornatâ,*

longitudinaliter obliquè striatâ, transversim subexaratâ; labio complanato; columellâ anticè subtuberculatâ; labro nigro luteoque intus marginato.
Hab. Australia.

25. **Labio fuliginea**, A. Adams. *L. testâ orbiculato-conicâ, imperforatâ, nigrâ, liris transversis æquidistantibus luteo-articulatis ornatâ; regione umbilicali impressâ; columellâ tuberculis duobus, antico majore; labro duplicato, nigro-marginato.*
Hab. ——?

26. **Labio corrosa**, A. Adams. *L. testâ turbinatâ, imperforatâ, spirâ elevatiusculâ, anfractibus rotundatis, rugosâ, cinereo-lutescente; anfractu ultimo subangulato; labio complanato; columellâ simplici; labro luteo marginato.*
Hab. New Zealand (*Hart*).

27. **Labio concolor**, A. Adams. *L. testâ turbinato-conicâ, imperforatâ; spirâ acutâ, brunneâ, longitudinaliter obliquè striatâ, transversim subliratâ; labio complanato, regione umbilicali impresso; columellâ arcuatâ, anticè tuberculo terminatâ; labro nigro-fusco marginato.*
Hab. New Zealand (*Hart*).

Genus 16. Chlorostoma, Swainson.—*Oxystele*, Philippi.

1. **Chlorostoma argyrostoma**, Chemn.
Trochus argyrostomus, Chemn. v. pl. 165. f. 1562, 1563.
Hab. Cape of Good Hope.

2. **Chlorostoma agreste**, Chemn.
Trochus agrestis, Chemn. v. pl. . f. 1645, 1646.—*Trochus rusticus*, Gmel.
Hab. South Seas.

3. **Chlorostoma nigerrimum**, Gmel.
Trochus nigerrimus, Gmel.; Chemn. v. pl. . f. 1647.
Hab. New Zealand.

4. **Chlorostoma atrum**, Lesson.
Trochus ater, Lesson, Voy. de la Coquille, Moll. pl. 16. f. 2.—*Trochus atropurpureus*, Jonas.
Hab. Valparaiso, under stones (*H. C.*).

5. **Chlorostoma mœstum**, Jonas.
Trochus mœstus, Jonas, Zeit. f. Malac. 1844, August, p. 113.
Hab. Chili.

6. **Chlorostoma tigrinum**, Chemn.
Trochus tigrinus, Chemn. v. pl. 165. f. 1566.
Hab. Algoa Bay.

7. CHLOROSTOMA CARINATUM, Koch.
Trochus carinatus, Koch, Phil. Abbild. Troch. t. 2. f. 3.
Hab. Valparaiso, 6 fathoms, coarse sand (*H. C.*).

8. CHLOROSTOMA EURYOMPHALUS, Jonas.
Trochus euryomphalus, Jonas, Zeit. f. Malac. 1844, August, p.113.
Hab. West coast of America.

9. CHLOROSTOMA STENOMPHALUS, Jonas.
Trochus stenomphalus, Jonas, Zeit. f. Malac. 1844, August, p. 114.—*Trochus tridens*, Jonas, olim.—*Trochus microstomus*, D'Orbigny.
Hab. Valparaiso.

10. CHLOROSTOMA MERULA, Chemn.
Trochus merula, Chemn. v. pl. 165. f. 1564, 1565.—*Trochus Sinensis*, Gmel.—*Trochus lugubris*, Lamk.
Hab. Cape of Good Hope.

11. CHLOROSTOMA MARGINATUM, Nuttall.
Trochus marginatus, Nuttall, MSS.
Hab. Upper California.

12. CHLOROSTOMA CICER, Menke.
Trochus cicer, Menke, Phil. Abbild. Troch. t. 3. f. 5.
Hab. ——?

13. CHLOROSTOMA SAGITTIFERUM, Lamk.
Trochus sagittiferus, Lamck. Hist. An. s. Vert. tom. vii. p. .
Hab. ——?

14. CHLOROSTOMA TABULARE, Krauss.
Trochus tabularis, Krauss, Sudafrik. Mollusk. p. 97. t. 5. f. 30.
Hab. Cape of Good Hope.

15. CHLOROSTOMA LÆVE, Chemn.
Trochus lævis, Chemn. Conch. v. p. 171. f. 1670.—*Trochus lævigatus*, Gmel.—*Trochus Richardi*, Payraud.
Hab. ——?

16. CHLOROSTOMA SAUCIATUM, Koch.
Trochus sauciatus, Koch, Phil. Abbild. Trochus, t. 5. f 7.
Hab. ——?

17. CHLOROSTOMA BICANALICULATUM, Dunker.
Trochus bicanaliculatus, Dunker, Phil. Abbild. Troch. t. 5. f. 4.
Hab. ——?

18. CHLOROSTOMA PFEIFFERI, Philippi.
Trochus Pfeifferi, Phil. Zeit. f. Malac. 1846, July, p. 104.
Hab. ——?

19. CHLOROSTOMA GALLINA, Forbes.

Trochus gallina, Forbes, Moll. Kellett's Voy.

Hab. ——?

20. CHLOROSTOMA PULLIGO, Martyn.

Trochus pulligo, Martyn.

Hab. ——?

21. CHLOROSTOMA IMPERVIUM, Menke.

Trochus impervius, Menke, Spec. Moll. Nov. Holland.– *Trochus suavis*, Phil. Kust. Conch. Cab. pl. 42. f. 1.

Hab. New Holland.

22. CHLOROSTOMA ODONTIS, Wood.

Trochus odontis, Wood, Ind. Test. Suppl. pl. 6. f. 37.

Hab. Port Philip, on the rocks at low water (*Jukes*).

23. CHLOROSTOMA CASTANEUM, A. Adams. *C. testâ obliquè conicâ, umbilicatâ, castaneâ; anfractibus planis, longitudinaliter obsoletè nodoso-plicatis et obliquè striatis, penultimo infra marginato, ultimo acutangulo, basi concavo pallidè fuscâ, lineis viridi-fuscis radiatim pictâ; umbilico infundibuliformi, perspectivo, intus albo, peromphalo albo lineâ elevâtâ cincto; aperturâ subrhomboideâ; columellâ supra sinuatâ, basi dente terminatâ.*

Hab. ——?

24. CHLOROSTOMA UNDULOSUM, A. Adams. *C. testâ globoso-conicâ, imperforatâ; spirâ depressâ, virescenti lineis undulatis atro-purpureis longitudinalibus ornatâ, longitudinaliter substriatâ; labio complanato, margine columellari subtuberculato; labro intus sulcato, margine luteo, atro-purpureo articulato.*

Hab. New Zealand (*Earl*).

25. CHLOROSTOMA TURBINATUM, A. Adams. *C. testâ turbinatâ, profundè umbilicatâ, nigrâ; spirâ obtusâ, longitudinaliter subplicatâ, transversim sulcosâ; anfractu ultimo rotundato, regione umbilicali partim callo lutescente obtectâ; columellâ anticè bituberculatâ; labro nigro marginato.*

Hab. ——?

26. CHLOROSTOMA RUGOSUM, A. Adams. *C. testâ turbinato-conoidali, profundè umbilicatâ, luteo-fuscâ, nigro variegatâ, longitudinaliter nodoso-plicatâ, transversim sulcatâ; anfractu ultimo rotundato, infra suturam angustato; columellâ incurvatâ, anticè bituberculatâ, tuberculo supremo magno, prominente; labro fusco marginato.*

Hab. ——?

27. CHLOROSTOMA CORRUGATUM, A. Adams. *C. testâ orbiculato-conoidali, profundè umbilicatâ; spirâ subacutâ, longitudi-*

naliter corrugato-plicatâ et obliquè striatâ; anfractu ultimo subrotundato, basi plano convexo, regione umbilicali albido subcalloso; columellâ tuberculis duobus, supremo magno.
Hab. ——?

28. **Chlorostoma tropidophorum**, A. Adams. *C. testâ orbiculato-depressâ, profundè umbilicatâ; spirâ brevi, nigrâ, transversim sulcatâ, cingulis transversis prominentibus ornatâ; anfractu ultimo carinato, basi concentricè exarato, regione umbilicali albo sulco circulari circumdato; columellâ tuberculis duobus, supremo acuto, prominente.*
Hab. Valparaiso.

29. **Chlorostoma maculosum**, A. Adams. *C. testâ conicâ, profundè umbilicatâ, viridi-fuscâ, maculis nigro-fuscis ornatâ; anfractibus planulatis, longitudinaliter substriatis, transversim striatis; anfractu ultimo angulato, basi concavo; columellâ anticè tuberculo acuto terminatâ.*
Hab. ——?

30. **Chlorostoma seminodosum**, A. Adams. *C. testâ depresso-conicâ, profundè umbilicatâ, fuscâ; anfractibus planulatis, supernè subnodosis, longitudinaliter obliquè striatis; anfractu ultimo angulato, suprà angulum cingulâ transversâ elevatâ ornato, basi planiusculâ; columellâ tuberculis duobus, supremo acuto, prominente.*
Hab. ——?

31. **Chlorostoma articulatum**, A. Adams. *C. testâ orbiculato-conicâ, umbilicatâ, nigro-fuscâ, cingulis transversis elevatis albo-articulatis ornatâ; anfractu ultimo subangulato, basi cingulis albo-articulatis instructo, regione umbilicali viridi; columellâ tuberculo parvo terminatâ.*
Hab. ——?

32. **Chlorostoma xanthostigma**, A. Adams. *C. testâ conoideâ, imperforatâ, glabrâ, nigrâ, longitudinaliter obliquè substriatâ; anfractibus parum rotundatis, basi concentricè lirato, luteo-carneolo; regione umbilicali callo luteo obtectâ; columellâ arcuatâ, basi dente terminatâ et infra tuberculo instructâ.*
Hab. ——?

33. **Chlorostoma turbinatum**, A. Adams. *C. testâ ovato-conoideâ, imperforatâ, castaneâ, lævi, longitudinaliter obliquè striatâ, striis transversis indistinctis insculptâ; anfractibus rotundatis, suturâ angustè canaliculatâ, regione umbilicali impressâ; labio curvato, basi dente et tuberculo terminatâ; labro intus sulcato.*
Hab. ——?

Genus 17. GIBBULA, Leach.

Trochus, sp. Linn.—*Steromphala*, Leach.—*Monodonta*, sp. Lam.

1. GIBBULA MAGUS, Linn.

Trochus magus, Linn. Syst. Nat. ed. 12. p. 1228.—*Trochus tuberculatus*, Da Costa.

Hab. British Islands.

2. GIBBULA FANULUM, Gmel.

Trochus Fanulum, Gmel., Petiver, Gazoph. t. 156. f. 15.

Hab. Malta.

3. GIBBULA DECLIVIS, Forskal.

Turbo declivis, Forsk. Descr. Anim. p.126; Chemn. Conch. pl.171. f. 1663, 1664.—*Trochus Ægyptiacus*, Gmel.

Hab. Suez.

4. GIBBULA CINERARIA, Linn.

Trochus cinerarius, Linn. Syst. Nat. ed. 12. p. 1229.—*Trochus lineatus*, Da Costa.—*Trochus perforatus*, Smith.—*Trochus inflatus*, Blainv.—*Trochus versicolor*, Andrg.—*Trochus lineolatus*, Potiez and Mich.—*Trochus littoralis*, Brown.—*Trochus electissimus*, Bean.

Hab. British Islands.

5. GIBBULA SCABRA, Linn.

Trochus scaber, Linn. Syst. Nat. ed. 10. no. 510. p. 785; Chemn. Conch. t. 171. f. 1667.

Hab. European Seas.

6. GIBBULA QUADRATA, Gmel.

Trochus quadratus, Gmel., Wood, Ind. Test. pl. 29. f. 45; Chemn. Conch. pl. 171. f. 1683.—*Trochus Biasoletti*, Philippi.—*Trochus magulus*, Deshayes.

Hab. Mediterranean.

7. GIBBULA FUSCATA, Born.

Trochus fuscatus, Born, Test. Mus. Cæsar. t. 12. f. 1, 2.—*Trochus umbilicaris*, Lamk. (not Linn.)

Hab. — ?

8. GIBBULA CINEREA, Montague.

Trochus cinereus, Mont., Donov. Nat. Hist. Brit. Sh. v. t. 155. f. 3.

Hab. Britain.

9. GIBBULA DIVARICATA, Linn.

Trochus divaricatus, Linn. Syst. Nat. ed. 12. p. 1229.—*Trochus rarilineatus*, Michaud.—? *Turbo sanguineus*, Gmel.

Hab. Mediterranean.

10. GIBBULA TUMIDA, Montague.

Trochus tumidus, Mont. Test. Brit. t. 10. f. 4.—*Trochus Rackettii*,

Payr.—*Trochus patholatus*, Dillw.—? *Trochus nassaviensis*, Chemn.—*Trochus nitens*, Woodward.—*Margarita undulata*, var. *trochiformis*, Forbes.—Fry, *Skenea serpuloides*, Macgillivray.
Hab. British Islands, Mediterranean.

11. GIBBULA ADANSONII, Payraud.

Trochus Adansonii, Payr. Cat.—*Trochus radiatus*, Phil.—*Trochus turbinoides*, Desh.—*Trochus euxinicus*, Andrg.
Hab. Corsica, France.

12. GIBBULA AGATHENSIS, Recluz.

Trochus Agathensis, Recluz.
Hab. ——?

13. GIBBULA VARIA, Gmel.

Trochus varius, Gmel.—*Trochus varians*, Desh.—*Trochus Gabaldianus* (quibusd.).—*Trochus lævigatus*, Gmel.?
Hab. ——?

14. GIBBULA MULTICOLOR, Krauss.

Trochus multicolor, Krauss, Sudafrik. Moll. t. 5. f. 31.
Hab. Cape of Good Hope.

15. GIBBULA PHILBERTI, Recluz.

Trochus Philberti, Recl.
Hab. ——?

16. GIBBULA JUCUNDA, Gould.

Trochus jucundus, Gould, Expedition, Shells, p. 56.
Hab. ——?

17. GIBBULA CAPENSIS, Gmel.

Trochus Capensis, Gmel. Syst. Nat. no. 40; Chemn. Conch. v. t. 171. f. 1661, 1662.
Hab. Cape of Good Hope.

18. GIBBULA VULNERATA, Philippi.

Trochus vulneratus, Phil. Zeit. f. Malac. 1846.
Hab. ——?

19. GIBBULA FASCIATA, Born.

Trochus fasciatus, Born.—*Trochus canaliculatus*, Phil.—*Monodonta Fermonii*, Payr.
Hab. ——?

20. GIBBULA UMBILICATA, Montague.

Trochus umbilicatus, Mont. Test. Brit. p. 286.—*Trochus umbilicaris*, Pennant.—*Trochus umbilicalis*, Da Costa.—*Trochus obliqueradiatus*, Chemn.—*Trochus cinerarius*, Pultney.
Hab. British Islands.

21. GIBBULA ROTELLIFORMIS, Philippi.
Trochus rotelliformis, Phil. Zeit. f. Malac. 1846.
Hab. ——?

22. GIBBULA ADELAIDÆ, Philippi.
Trochus Adelaidæ, Phil. Zeit. f. Malac. 1846.
Hab. ——?

23. GIBBULA OBLIQUATA, Gmel.
Trochus obliquatus, Gmel. Syst. Nat.; Wood, Suppl.
Hab. ——?

24. GIBBULA FUMOSA, Philippi.
Trochus fumosus, Phil. Zeit. f. Malac. 1846.
Hab. ——?

25. GIBBULA SULCOSA, A. Adams. *G. testâ conoideâ, umbilicatâ, maculis roseis flammulis albo-punctatis variegatâ, anfractibus paulum convexis, longitudinaliter substriatâ, transversim sulcatâ, sulcis subdistantibus, anfractu ultimo subangulato, basi convexiusculâ, lineis impressis concentricis sculptâ; aperturâ suborbiculari; columellâ supernè sinuatâ, basi subtruncatâ.*
Hab. Sir C. Hardy's Island, North Australia, 8 fathoms, coarse sand (*Mr. Jukes*).

26. GIBBULA MINDORENSIS, A. Adams. *G. testâ elevato-conoideâ, perforatâ, viridi-fuscâ, fasciis pallidis longitudinalibus ornatâ; anfractibus rotundatis, liris transversis subgranulosis cinctis, ultimo subangulato, basi convexâ; columellâ subrectâ, basi tuberculo terminatâ; labro intus sulcato.*
Hab. Puerto Galero, island of Mindoro, in coarse sand, 9 fathoms (*H. C.*).

27. GIBBULA UNDOSA, A. Adams. *G. testâ orbiculato-conoideâ, umbilicatâ, virescenti, lineis fusco-viridibus undatis longitudinalibus pictâ; anfractibus rotundatis, transversim tenuè liratis, ultimo subangulato, basi convexâ; aperturâ expansâ, intus iridescenti; columellâ supernè sinuatâ, basi rotundatâ.*
Hab. ——?

28. GIBBULA PORCELLANA, A. Adams. *G. testâ depresso-conicâ, latè umbilicatâ, glabrâ, solidâ, nitidâ, lacteâ, lineis radiantibus undulatis pulcherrimè pictâ; anfractibus planis cingulis prominentibus, duabus maculis albis et rufo-fuscis vividè pictis ornatâ; interstitiis transversim sulcatis, basi convexiusculâ, cingulis concentricis lineis maculisque rufo-fuscis ornatâ; umbilico perspectivo, intus concentricè lirato, margine lineâ elevatâ cincto; columellâ subrectâ, basi rotundatâ.*
Hab. New Holland.

29. **GIBBULA PULCHRA**, A. Adams. *G. testâ orbiculato-conicâ, umbilicatâ, roseâ, ad suturam albo luteo fuscoque radiatim pulcherrimè pictâ; anfractibus planis, biangulatis, transversim sulcatis, sulcis rubro-articulatis, anfractu ultimo angulato, cingulâ albo luteo nigro fuscoque eleganter pictâ, basi convexâ, concentricè sulcatâ; umbilico intus albo, basi rotundatâ.*
Hab. Australia.

30. **GIBBULA KALINOTA**, A. Adams. *G. testâ orbiculato-conoideâ, perforatâ, virescenti, carneo cinereo variegatâ; anfractibus rotundatis, lineis elevatis albo-articulatis, supernè gibbosis; suturâ profundâ, anfractu ultimo rotundato, basi convexâ, cingulis articulatis concentricis ornatâ, margine umbilici angulato, lineâ elevatâ cincto; columellâ supernè sinuatâ, basi subtruncatâ; labro intus lævi.*
Hab. ——?

31. **GIBBULA VENUSTA**, A. Adams. *G. testâ orbiculato-conoideâ, umbilicatâ, viridi-fuscâ, maculis albis prope suturas, cingulis subdistantibus fusco rubroque articulatis, interstitiis liratis, longitudinaliter obliquè striatâ; anfractibus supernè gibbosis, rubro pictis; suturâ canaliculatâ, anfractu ultimo rotundato, basi convexiusculâ, cingulis fusco alboque articulatis, regione umbilicali roseo pictâ; columellâ sinuatâ, basi truncatâ.*
Hab. Australia.

32. **GIBBULA PUNCTO-COSTATA**, A. Adams. *G. testâ turrito-conicâ, lutescenti, umbilicatâ; anfractibus supernè cingulis tribus nodulosis, rubro-articulatis nodulis punctatis, infernè liris transversis nodulosis rubro-articulatis, infra, cingulâ puncto-nodosâ basi planâ, cingulis concentricis subnodosis rubro-articulatis ornatâ, margine umbilici lineâ elevatâ cinctâ; columellâ subrectâ, basi truncatâ; labro intus lirato.*
Hab. Island of Capul, on the reefs at low water (*H. C.*).

33. **GIBBULA LEUCOSTICTA**, A. Adams. *G. testâ conoideâ, perforatâ, nigrâ, punctis lacteis pictâ, anfractibus convexiusculis, transversim liratâ, longitudinaliter striatâ, liris subdistantibus albo-punctatis, interstitiis lineis elevatis transversis ornatâ; anfractu ultimo angulato, basi convexiusculâ, cingulis nigro alboque articulatâ; aperturâ subrotundatâ; columellâ supernè sinuatâ, basi rotundatâ.*
Hab. Gindulman, island of Bohol, rocky ground (*H. C.*).

34. **GIBBULA NIVOSA**, A. Adams. *G. testâ orbiculato-conoideâ, umbilicatâ, cinereâ, maculis nivosis subrotundatis pictâ, transversim sulcatâ, longitudinaliter substriatâ; aperturâ subrotundatâ; columellâ flexuosâ, basi rotundatâ.*
Hab. ——?

Genus 18. MONILEA, Swainson.—*Talopia*, Gray.

1. MONILEA CALLIFERA, Lamk.

Trochus calliferus, Lamk. Hist. An. s. Vert. t. vii. p. 27.—*Trochus callosus*, Wood.

Hab. Philippines.

2. MONILEA CALYCULUS, Wood.

Trochus calyculus, Wood, Ind. Test. Suppl. pl. 2. f. 44.—*Trochus Belcheri*, Philippi.

Hab. Eastern Seas.

3. MONILEA BENZI, Krauss.

Trochus Benzi, Krauss, Sudafr. Moll. p. 99. t. 5. f. 32.

Hab. South Africa.

4. MONILEA NUCLEUS, Phil.

Trochus nucleus, Phil. Zeit. f. Malac. 1846.

Hab. ——?

5. MONILEA LENTIGINOSA, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, albidâ, luteo fuscoque variegatâ; anfractibus rotundatis, cingulis subgranulosis confertis ornatis, ultimo rotundato, basi convexiusculâ, regione umbilicali excavatâ; columellâ supernè callosâ, basi dente terminatâ; labro intus lirato.*

Hab. Ilo Ilo, island of Panay, 7 fathoms (*H. C.*).

6. MONILEA KALISOMA, A. Adams. *M. testâ orbiculato-conoideâ, umbilicatâ, lutescenti, cingulis purpureo-articulatis ornatâ, cingulis subdistantibus, supremis granulatis, infimis planis; anfractibus planiusculis, ultimo subangulato, basi paulum convexâ, cingulis purpureo-maculatis insculptâ; columellâ supernè sinuatâ, basi dente terminatâ; labro intus lirato.*

Hab. ——?

7. MONILEA PLUMBEA, A. Adams. *M. testâ orbiculato-conoideâ, umbilicatâ, plumbeâ; anfractibus rotundis, cingulis granorum transversis in paribus dispositis ornatâ, basi convexâ; umbilico mediocri, intus albo; columellâ brevi, supernè sinuatâ, basi dente terminatâ; labro intus lirato.*

Hab. ——?

8. MONILEA LIRATA, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, pallidâ; anfractibus paulum convexis, liris transversis elevatis distantibus, interstitiis decussatè striatis ornatis; anfractu ultimo angulato, basi convexâ, margine umbilici sulco cincto.*

Hab. ——?

9. MONILEA PUSILLA, A. Adams. *M. testâ orbiculato-conicâ, umbilicatâ, rubescenti, fusco variegatâ; anfractibus planiusculis, cingulis granorum transversum distantibus (circa quatuor)*

ornatis, interstitiis transversim striatis; columellâ in medio sinuatâ.
Hab. ——?

10. Monilea swainsonii, A. Adams. *M. testâ conoideâ, umbilicatâ, albidâ, nigro variegatâ; anfractibus planis, cingulis subgranosis, albo nigroque articulatis ornatis, ultimo subangulato, basi planiusculâ, cingulis rufo-articulatis ornatâ; columellâ basi tuberculatâ; labro intus lirato.*
Hab. ——?

Genus 19. Margarita, Leach.—*Trochus*, sp. Auct.

1. Margarita helicina, O. Fabricius.
Turbo helicinus, O. Fabr. Faun. Grœnland. p. 393.—*Trochus neritoides*, Gmel.—*Turbo margarita*, Montag.—*Helix margarita*, Laskey.—*Phorcus margarita*, Risso.—*Trochus margaritus*, Gray.—*Margarita vulgaris*, Leach.—*Margarita arctica*, Gould.—*Margarita helicina*, Möller.—*Margarita margarita*, Brown.—*Margarita helicoides*, Beck.—*Turbo inflatus*, Totten.—*Paludina inflata*, Menke.
Hab. British Islands.

2. Margarita grœnlandica, Beck.
Margarita Grœnlandica, Beck; Sow. Conch. Illustr. f. 10.
Hab. Greenland.

3. Margarita umbilicalis, Brod. and Sow.
Margarita umbilicalis, Brod. and Sow. Zool. Journ. iv.; Conch. Illustr. f. 5.

4. Margarita striata, Leach.
Margarita striata, Leach, Append. Ross's Voy. to North Pole; Gray, Zool. Journ. vol. ii. p. 567.—*Turbo carneus*, Lowe.—*Margarita carnea*, Sow.
Hab. ——?

5. Margarita glauca, Möller.
Margarita glauca, Möller, Ind. Moll. Grœnland. p. .
Hab. Greenland.

6. Margarita undulata, Sowerby.
Margarita undulata, Sow. Conch. Illustr. f. 4.—*Turbo incarnatus*, Couthouy.
Hab. Casco Bay.

7. Margarita obscura, Couthouy.
Turbo obscurus, Couthouy, Bost. Journ. Nat. Hist. ii. 100. pl. 3. f. 2.
Hab. ——?

8. Margarita vahlii, Möller.
Margarita Vahlii, Möll. Ind. Moll. Grœnland. p. 81.
Hab. Greenland.

9. MARGARITA ACUMINATA, Sowerby.
Margarita acuminata, Sow. Conch. Illustr. f. 7.
Hab. ——?

10. MARGARITA COSTELLATA, Sowerby.
Margarita costellata, Sow. Conch. Illustr. f. 15.
Hab. ——?

11. MARGARITA ARGENTEA, Gould.
Margarita argentea, Gould, Invert. Massachuss. p. 256. f. 164.
Hab. Casco Bay.

12. MARGARITA NITILIGINEUS, Menke.
Trochus nitiligineus, Menke, Spec. Moll. Nov. Holl. p. .
Hab. Misamis, island of Mindanao, sandy mud (*H. C.*).

13. MARGARITA CINEREA, Couthouy.
Turbo cinereus, Couthouy, Bost. Journ. Nat. Hist. ii. 99. pl. 3. f. 9. —*Trochus costalis*, Lovén.
Hab. ——?

14. MARGARITA SULCATA, Sow.
Margarita sulcata, Sowerby, Conch. Illustr. f. 1.
Hab. Greenland.

15. MARGARITA SOLARIIFORMIS, Sowerby.
Margarita solariiformis, Sow. Conch. Illustr. f. .
Hab. San Nicholas, island of Zebu, sandy mud, 6 fathoms (*H. C.*).

16. MARGARITA BICARINATA, Adams and Reeve.
M. bicarinata, Adams and Reeve, Moll. Voy. Samarang, pl. 11. f. 11.
Hab. Eastern Seas.

17. MARGARITA CARINATA, A. Adams. *M. testâ elevato-conicâ, perforatâ, fuscâ, liris transversis ornatâ, superioribus duabus costellis longitudinalibus decussatis, inferioribus planis, interstitiis longitudinaliter tenuissimè striatis; basi planiusculâ, cingulis concentricis, interstitiis radiatim striatis insculptâ; margine umbilici crenulato.*
Hab. Catbalonga, coarse sand, 8 fathoms (*H. C.*).

18. MARGARITA ANGULATA, A. Adams. *M. testâ orbiculato-conicâ, latè umbilicatâ, albidâ, fusco variegatâ; anfractibus supra angulatis, transversim omnino striatis; basi convexâ, concentricè striatâ; umbilico magno, perspectivo.*
Hab. Sandwich Islands.

19. MARGARITA CALOSTOMA, A. Adams. *M. testâ conoideâ, crassâ, perforatâ, transversim valdè sulcatâ, albidâ; anfractibus subrotundatis, ultimo subangulato; aperturâ rotundâ, intus vividè violascenti iridescenti; umbilico callo, columellari subobtecto; labri margine argenteo.*
Hab. Juan de Fuco, Upper California.

20. **Margarita cumingii**, A. Adams. *M. testâ elevato-conicâ, cinereâ, lineis fuscis undulatis pictâ, latè umbilicatâ; anfractibus costellis transversis ornatis, ultimo tribus liris intermediis cincto, longitudinaliter elevatè striato; umbilico magno, cingulâ crenulatâ cinctâ, intus lineis radiantibus et transversis eleganter decussato.*
Hab. Philippines.

21. **Margarita variabilis**, A. Adams. *M. testâ orbiculato-conicâ, subdepressâ, latè umbilicatâ, pallidâ, fusco griseo alboque variè pictâ; anfractibus rotundatis, transversim valdè sulcatis; umbilico perspectivo, margine crenulato; basi planiusculâ; labio margine subcrenulato.*
Hab. ——?

22. **Margarita balteata**, A. Adams. *M. testâ orbiculato-conicâ, vix umbilicatâ, griseâ, fusco tessellatâ; anfractibus gibbosis, transversim valdè sulcatis; anfractu ultimo subangulato; basi planiusculâ, concentricè sulcatâ; columellâ curvatâ, vix truncatâ.*
Hab. ——?

23. **Margarita tessellata**, A. Adams. *M. testâ depresso-conicâ, latè umbilicatâ, lævi, cinereâ, regulariter griseo tessellatâ; anfractibus planiusculis, ultimo subangulato; basi convexâ; umbilico intus albido; aperturâ rotundâ, intus viridi-iridescenti.*
Hab. ——?

Subgenus Photina, H. and A. Adams.

Shell smooth, subconical; spire depressed; axis covered by a smooth callus; columella ending in a simple point.

This section includes all the species of *Margarita* that are not umbilicated.

1. **Photina tæniata**, Wood.
Trochus tæniatus, Wood, Ind. Test. Suppl. pl. 5. f. 12.—*Trochus bicolor*, Lesson, Voy. de la Coquille.—*Margarita tæniata*, Sow.
Hab. East Falkland (*Don*).

2. **Photina cærulescens**, King.
Margarita cærulescens, King, Zool. Journ. vol. v.
Hab. ——?

3. **Photina expansa**, Sow.
Margarita expansa, Sow. Conch. Illustr. f.
Hab. ——?

4. **Photina sigaretina**, Sow.
Margarita sigaretina, Sow. Conch. Illustr. f. 14.
Hab. ——?

5. **Photina violacea**, King.
Margarita violacea, King, Zool. Journ. vol. v. p. 346.
Hab. —— ?

6. **Photina lineata**, Sow.
Margarita lineata, Sow. Proc. Zool. Soc.
Hab. —— ?

7. **Photina nigra**, A. Adams. *P. testâ depresso-conicâ, imperforatâ, solidâ, nigrâ, lævi; anfractibus subrotundatis, transversim sulcatis; longitudinaliter obliquè substriatâ; anfractu ultimo subangulato; regione umbilicali impressâ; callo albo obtecto.*
Hab. —— ?

8. **Photina fusca**, A. Adams. *P. testâ obliquâ, subconicâ, nitidâ, fusco variegatâ; anfractibus parum convexis, transversim sulcatis, ultimo subangulato; aperturâ subrotundatâ, intus viridi iridescenti.*
Hab. —— ?

9. **Photina Sandwichiana**, A. Adams. *P. testâ orbiculato-conicâ, imperforatâ, lævi, albidâ, viridi fuscoque maculatâ; anfractibus rotundatis, ultimo subangulato, apice roseo; aperturâ apertâ, orbiculatâ, intus viridi margaritaceâ; labio albo; umbilico callo albo obtecto.*
Hab. Mataineka, Sandwich Islands.

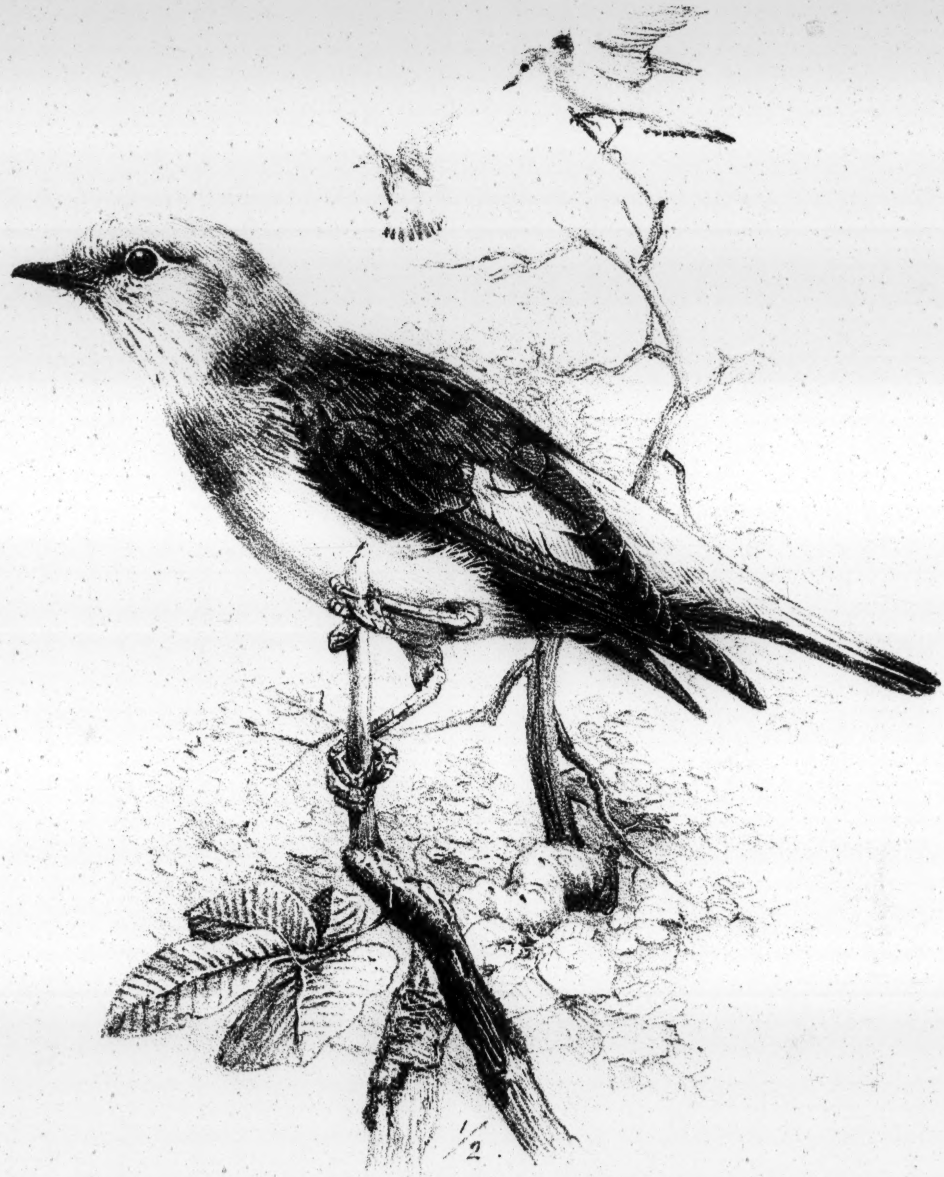
Mr. Oswald then communicated the following remarks by Mr. Mack, on the fact of black eggs being laid by a white duck of the ordinary domestic breed:—

"The egg (observes Mr. Mack) which is herewith sent was laid by a white duck, one of two belonging to Mr. Dickinson of Mitcham, which stray during the day on the common, but are confined at night. The drake was lost about a month since, and then one of the ducks commenced laying black eggs, the other still continuing to lay white ones,—she laid ten or twelve and then ceased for some days; she has again commenced laying black eggs. The ducks are fed once a day with barley, at the time the other poultry are fed.

"Mr. Dickinson, showing the egg this morning to one of the guards on temporary duty on the Brighton rail at Croydon, he said he had a duck which laid the same colour, or even blacker, and that he had raised (at East Bourne) two broods of ducks from black eggs."

Haling Cottage, Croydon, May 24, 1851.

BRITISH MUSEUM



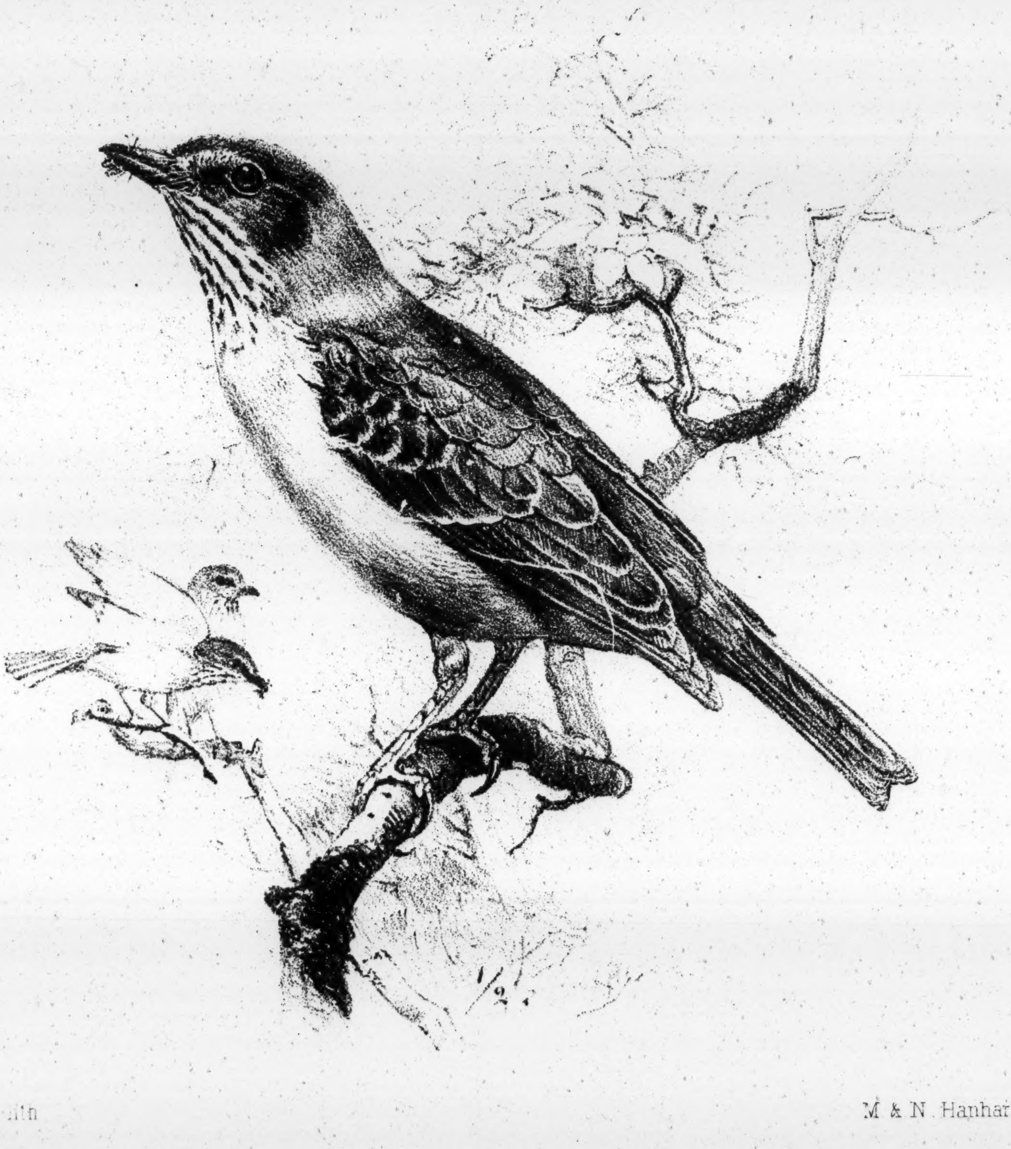
J. Wolf, lith.

M & N. Hanhart Imp

TÆNIOPTERA ERYTHROPYGIA. *Sclater*

XLI.

Hanhart Impt



J. Wolf, lith.

M & N. Hanhart Imp.

TÆNIOPTERA STRIATICOLLIS, *Sclater*

June 10, 1851.

John Gould, Esq., F.R.S., in the Chair.

The following papers were read:—

1. On two new species of Birds of the genus Tænioptera. By Philip Lutley Sclater, B.A., F.Z.S. etc.

(Aves, Pl. XLI. XLII.)

Tænioptera erythropygia, Sclater. *T. nigrescens; vertice fronte gulâque canescente-griseis; maculâ secundariorum albâ; uropygio, abdomine toto crissoque, cum tectricibus caudæ superioribus et alarum inferioribus levitèr brunneo-rufis; rectricibus brunneo-rufis nigro terminatis; rostro pedibusque nigris.*

Long. tot. 9 unc. 5 lin.; alæ, 5 unc. 7 lin.; caudæ, 4 unc. 4 lin.; rostri à rictû, 1 unc.; à fronte, 6 lin.

Hab. in republicâ Equatorianâ.

Wings and interscapulars black, growing lighter towards the crown, and greyish white on front and throat; breast darkish grey; outer web of the last four or five secondaries broadly edged with white, forming a white mark on the wing; lower back and tail-coverts and whole body beneath below the breast, as also under wing-coverts, light brownish rufous; tail-feathers the same, but broadly tipped with black. For the loan of this and the following species I have to thank Mr. Edward Wilson, who received them from M. Verreaux of Paris. I was at first inclined to refer both species to the genus *Agriornis* of Mr. Gould, but having had through Mr. G. Gray's kindness an opportunity of examining the type of that form, *Agriornis lividus** (Kitlitz), I now consider them better placed in the present genus *Tænioptera*, with which they agree in all their distinctive characters.

Tænioptera striaticollis, Sclater. *T. suprà saturatè fumoso-brunnea; uropygio paululùm rufescente tincto; superciliis rufescente-albidis; pennis caudâque nigris; secundariis tertiariisque levitèr brunnescente marginatis; infrà levitèr brunneo-rufa; gutture toto colloque albis nigro striatis; rectricibus remigibusque brunneo-rufis nigro terminatis; rostro pedibusque nigris.*

Long. tot. 9 unc. 5 lin.; alæ, 5 unc. 3 lin.; caudæ, 4 unc.; rostri à rictu, 1 unc. $\frac{1}{2}$ lin.; à fronte, $7\frac{1}{2}$ lin.

Hab. in republicâ Equatorianâ.

Above dark smoke-brown; an obscure whitish line from the bill to the top of the eye; quill-feathers brown-rufous, outer margins and ends black; secondaries, tertials, and wing-coverts nearly black, margined with light brown; beneath brown-rufous; chin, throat and neck white, with longitudinal striæ of black; tail-feathers brown-rufous, the two outer broadly tipped with black; the rest have also the outer web black, except the two medial, which are wholly black.

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* *Tyrannus gutturalis*, Voy. de la Favorite, Ois. t. 11.

This species is of the same form as the former, from which it may be distinguished by its shorter and weaker beak, and the want of the rufous colouring on the rump and upper tail-coverts, as also by the conspicuous striæ on the neck and throat.

2. NOTES ON AN UNDESCRIBED SPECIES OF TAILOR-BIRD.

BY DR. NICHOLSON.

It may appear irregular to use what has been meant and applied as a specific name, as a generic one, but then that name appears to me to include, and to be indiscriminately applied to, two or three distinct birds, as we may gather by looking at the accompanying sketch, by the examination of the species described by Colonel Sykes as inhabiting the Dukhun, and by reading the following description, taken from Forbes, 'Oriental Memoirs,' p. 34. vol. i., under the name of *Motacilla sutoria* :—"The Tailor-bird resembles some of the humming-birds at the Brazils in shape and colour; the hen is clothed in brown, but the plumage of the cock displays the varied tints of azure-purple, green and gold, so common in those American beauties." Often have I watched the progress of an industrious pair of Tailor-birds, in my garden, from their first choice of a plant, until the completion of the nest, and the enlargement of their young.

Now, it is evident either that Mr. Forbes alludes to a distinct and an uncommon species, which I have never met with, or else he must have mistaken the common *Cinnyris* or Sun-bird representing the Humming-birds, and both sexes of which he has generally described above. But then the *Cinnyris* builds a common-shaped nest in the fork of a branch, in fashion resembling that of the humming-birds.

This is a resident bird, not very conspicuous, as it keeps hopping about among the brushwood and plants. It has a loud, short, and not unmelodious song; its general cry is 'wheet, wheet, wheet,' often repeated; but its alarm-cry is like 'cheertah, cheertah, cheertah.'

I have found its singular sewn nest containing eggs or young at all seasons of the year, in May and in November; and this may be owing to the vegetation of gardens being always kept up by means of artificial irrigation; for cultivated spots seem its favourite, if not exclusive resort at least in the north of India. Though no doubt it haunts suitable jungles, I never observed it there, nor ever discovered its nest so situated; but I have found many nests in my gardens, both at Surat and at Raghote, as well as in Cutch. It seems to prefer the leaf of the Bringal (*Solanum esculentum*), or that of the *Cucurbita octangularis*, for the purposes of nidification; and it lays four small white eggs, marked with faint dark spots at the larger end. After selecting a fitting leaf, it proceeds by means of its feet and beak to draw the edges together, perforating holes therein, and securing their proximity by threads of cotton, with bunches at the end to prevent their giving way. Then the nest is constructed inside the leaf, now forming a sort of corve, with cotton; the entrance is at the top, and the nest seems small in proportion to the bird. If this

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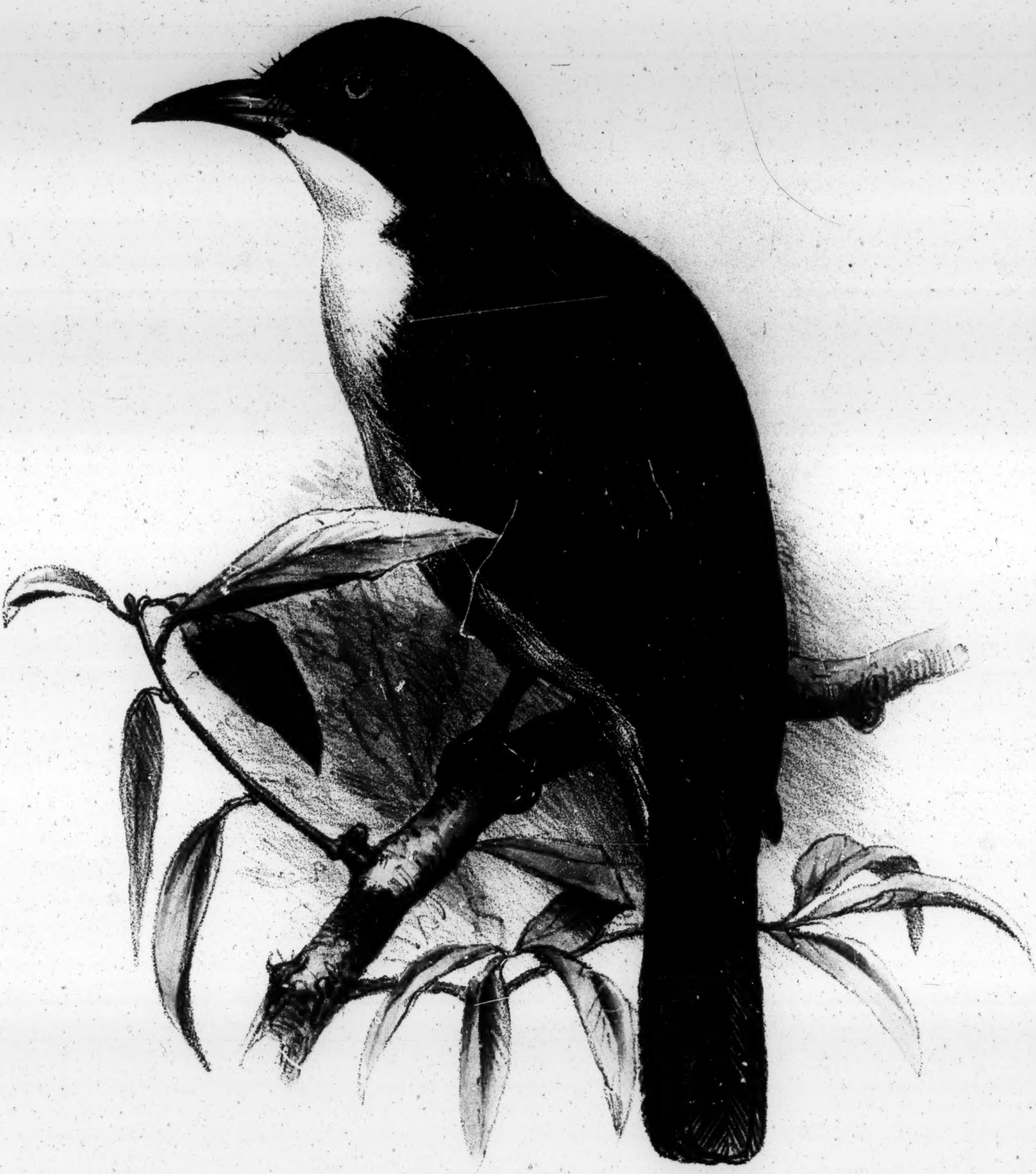


J. Wolf, lith.

M & N. Hanhart, Imp.

ARTAMUS CUCULLATUS, *Nicholson.*

bird should prove a distinct species, I would suggest the name of *Sutoria agilis* for it.

Weight of the male 2½ drachms.

Length from bill to tail 5¼ inches. Alar extent 6½ inches.

Head: bill long, slender and curved towards the point. Culmen slightly divides the frontal feathers, and is nearly on a line with the top of the head: there is an almost obsolete notch at the end of the upper mandible. Tongue short, slightly extensible, and divided into several filaments at the point. Gape wide, commissure under the eye; a small denuded spot above the commissure. Nostrils basal, pyriform, under a tegument; some small bristles and feathers reflexed from the canthus of the eye towards the bill and over the nares. Eyes small. Iris greenish yellow. Eyelashes edged with small feathers. Eyelids bare. Four remarkable (but inconspicuous) bristles, like feathers, project from the back part of the occiput.

Wings short and perfectly rounded; first quill only half as long as the second; fourth and fifth quills are longest; the second, third and fourth graduated; the first, third, fourth, fifth, sixth and seventh quills are emarginate on the outer web.

Tail of twelve graduated feathers, the two outer being the shortest; under-coverts are long.

Legs long, the tarsus ⅞ths of an inch; the outer toe longer than the inner. Hallux very strong, and as long as the outer toe, with a large pad beneath the base, its claw the largest; the tarsus is covered with seven scales in front and one entire behind; two large scales lie across the front of the foot; the claws are curved and sharp.

Contents of stomach a mass of insect exuviæ.

Colours: all above dull green, tinged with ash, light brown towards the end of the tail and quills, which are lighter on the edges. Two-thirds of the front breadth of the neck, round the eye, the breast, belly and thighs (except a chestnut spot on the hallux) are silver-white; there is, besides, a remarkable spot on the neck, of a brown colour, as if the white feathers had been deranged, showing the roots of a different colour. Bill ash-brown or horn-colour, the lower jaw lighter, and both lighter on the edges, as also are the legs and claws of the same colour; forehead of a fine chestnut; crown of olive-brown.

3. NOTES ON A NEW SPECIES OF ARTAMUS, FROM INDIA.

BY DR. NICHOLSON.

(Aves, Pl. XLIII.)

These birds are only found in very thick jungles among the brushwood, where they are always moving about, and are shot with great difficulty, and even then, if not killed outright, they are so tenacious of life, that they creep into the first hole or crevice they come to. The only note I ever heard was like 'chick, chick.' I think they are residents, but the few I have seen just appear and are lost again in a moment, so that I know little of their habits; the one figured here had one leg and both wings broken, and still crept into the hole of a jerboa-rat, from which I dug it out dead.

Male: weight $6\frac{1}{2}$ oz.

Length from bill to tip of tail $7\frac{2}{8}$ inches. Alar extent 10 inches.

Head large. Bill strong, narrow and sharp, gently arched on the culmen; a distinct notch near the tip of upper mandible; gape wide. Tongue horny and divided at the point. Nostrils basal, small. Eye rather small. Iris of a silvery colour, tinged with yellow.

Wings rounded; first quill very short; third longest; second, third and fourth quills emarginate on outer web.

Tail short, and nearly even at the end, of twelve feathers, $2\frac{3}{4}$ inches long.

Tarsus strong. Hallux and claw stronger than the other toes, and as long as the inner toe, and has a large pad at its base; the outer toe is shortest; the claws are much hooked.

Contents of stomach were a few grains of *Holcus spicatus* and the exuviæ of insects.

Plumage is soft and loose.

Colours: the whole top of the head is covered with a cap of black. Bill lead-colour at base and black at the point. The chin, the breast, and all underneath white; the body all above of a leaden colour. Quills and tail of a light black, edged with light on both webs; the outer web of the outer tail-feather is white, as well as the tips of the first five on each side. Feet and legs black.

I propose for this species the name of *Artamus cucullatus*.

4. OBSERVATIONS ON THE BREEDING OF THE NIGHTINGALE IN CAPTIVITY.

BY H. HANLEY, SERGEANT-MAJOR 1ST LIFE GUARDS.

Being of opinion that any bird which breeds in this country in a wild state, might, by studying its habits, be brought to do so in a state of captivity, I made preparations during the winter of 1844 for trying the Nightingale, which I considered to be the most retired in its habits of any of our summer visitants. I had a cage made, 4 feet long by 3 feet high, the back, ends and top solid, with a wire front, in which I placed a small Scotch fir-tree, planted in a flower-pot; to each end of the cage I attached a common-sized canary's breeding-cage, communicating with the large cage by a hole about 4 inches square. I broke a new birch-broom, and filled up the cages at each end, to make them resemble as near as possible the bottom of a thick hedge, and then put in a plentiful supply of withered oak-leaves and moss, of which the nightingale forms its nest, covering the fronts of the two small cages with green glazed calico: I placed the cages high up against a wall facing a landing-window. The following spring, that is, about the latter end of April 1845, I directed a bird-catcher (Blake, of John-street, Tottenham-court-road), who goes to Watford every season to catch nightingales, to bring me a cock and hen bird which had paired naturally; he did so, and, fortunately, they meated off very readily. By "meating off," I mean that such birds as live on insect food will not peck at dead food until taught to do so, which is effected by enclosing meal-worms in a small glass tube, corked up at each end, and then placing the tube in their food; on pecking at the worm the beak slips off the glass amidst the food, which they swallow, and will afterwards go to it without the aid of a tube. On finding my birds feed freely in the small cage, in which until then I had confined them, I turned them into the place I had fitted up for them, and was much gratified, about a week afterwards, to observe the hen bird flying about with an oak-leaf in her beak. She made her nest in one of the small cages at the end of the large one; laid four eggs, of which she hatched and brought up three young ones. During the time she was sitting, the cock sang as well and as loud as I ever heard one in a wild state: when the young were excluded he left off singing, and was most assiduous in assisting to feed and rear them.

June 24, 1851.

J. E. Gray, Esq., F.R.S., Vice-President, in the Chair.

The following communications were made:—

1. On a new genus of Anomiadæ, in the Collection of Mr. Cuming.

By J. E. Gray, Esq., F.R.S., V.P.Z.S., P.B.S. etc.

Tedinia.

Shell irregular, loosely lamellar; upper or right valve with a broad cardinal groove, and with three muscular scars, the upper small, oblong near the cartilage, the other two large, subcentral, upper subtrigonal, lower oblong, transverse, united by a nearly straight medial cross line; left or attached valve with an elongated, triangular, convex cardinal ridge, with a deep groove on each side, having the cartilage on its inner edge, with two muscular scars, one small, half oblong near the cardinal ridge, the other large, subcentral, subcircular, and with a roundish circular hole near the upper edge, with a slight impression showing the grooves to the margin some distance from the cardinal ridge; the plug shelly, fixed into and exactly fitting the hole, with a triangular base sunk into the surface, commencing from the apex of the shell on the outer surface, and formed of erect shelly longitudinal plates within.

The shell has the plug and much the external appearance of the subgenus *Pododesmus*, but differs from it and all the other *Anomia*-

dæ in the following particulars: 1. That the line which indicates the junction of the two edges of the sinus which forms the perforation, instead of being placed on the side of the ridge which supports the cartilage, is placed at a considerable distance from it; 2. The sides of the sinus are firmly soldered together, leaving only a circular hole; 3. The support of the cartilage, instead of being merely a ridge or process, here forms a large elongated subtriangular talus, like that found in the genus *Ostrea*; 4. It differs greatly in the number and form of the muscular scars; the two large ones in the free valves are placed as in the genus *Placunanomia*, and there is a third anterior one in each valve not found in any genus of the family, and very unlike the third scar of the genus *Anomia*. I know only of a single specimen of the genus, which is in the collection of Mr. Cuming, who believes that it came from California. It may be called *Tedinia pernoides*; subquadrangular, reddish, subsquamose, obscurely radiated, internally reddish brown.

2. DESCRIPTION OF A NEW SPECIES OF BULIMUS FROM AUSTRALIA. BY LOVELL REEVE, F.L.S. ETC.

(Mollusca, Pl. XII.)

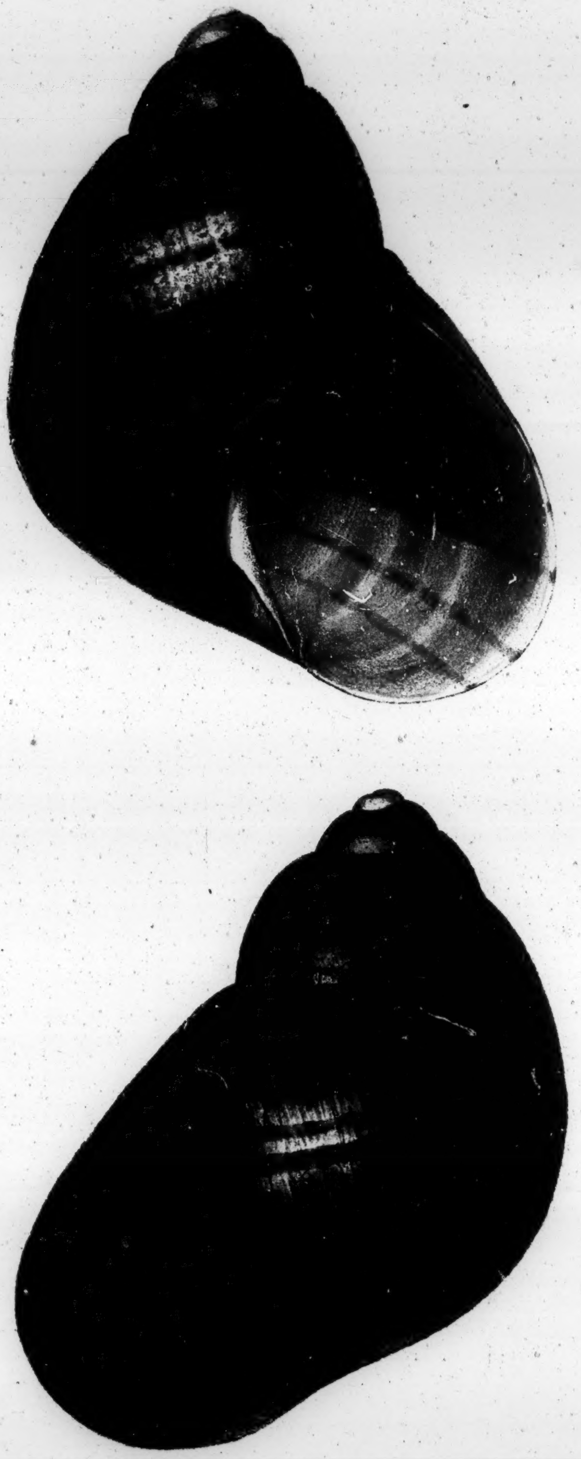
BULIMUS MACONELLI. *Bul. testá acuminato-oblongá, tenuiculá, subobliquè convolutá, spirá brevi, suturis rudibus, anfractibus quatuor ad quinque, minutè et creberrimè spiraliter undulato-striatis, ultimo valdè inflato, columellá subcontortá, aperturá subamplá, labro simplici; brunneá, maculis parvis punctisque nigris undique pictá et seriatim fasciatá, maculis infra suturas regularibus, aperturæ fauce fuscescente.*

Hab. Brisbane, Moreton Bay, Australia.

This fine species has been forwarded to me from the Manchester Museum of Natural History, with the above name attached to it in manuscript, by Captain Brown. It is chiefly remarkable on account of its absolute similarity in texture, in colour, and in pattern, to *Helix Falconari* of the same locality. It appears to differ in nothing but in that difference of convolution which characterizes the respective genera. Mr. Cuming possesses an exactly similar un-umbilicated specimen; and none of several examples of *H. Falconari*, with which it has been compared and which are all largely umbilicated, present any indication of an intermediate form. It is the first instance on record of a strictly typical richly painted *Bulimus* and *Helix* agreeing in colour, in pattern, and in all respects save that of form.

3. OBSERVATIONS ON THE DENTITION OF THE TIGER BEETLES. BY J. O. WESTWOOD, PRES. E.S., F.L.S. ETC.

Mr. Westwood directed the attention of the meeting to the necessity which existed of a more precise examination and description of the diversity in the dentition of the mandibles of insects, especially



W. H. Baily.

Printed by Hullmandel & Walton.

BULIMUS MACONELLI, Reeve.

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Hymenoptera and Coleoptera, than had hitherto been bestowed thereon. In the higher orders of animals so much importance had been given to this character, that it was remarkable that, in general, entomologists contented themselves with examining, describing, and figuring a single mandible as affording a sufficient diagnosis of the structure of both of the mandibles, overlooking the necessary result which arose from the circumstance of the horizontal instead of perpendicular action of these organs in insects, and the variation in the position of the teeth which such action must necessarily induce. In general, indeed, the teeth of the mandibles were not greatly developed, and there was a general similarity between the two jaws; but when these organs are of an increased size, and especially when the extremity of one jaw laps over that of the opposite one, a diversity in the dentition will necessarily exist. It was likewise necessary to examine the mandibles of both sexes of a species, as it occasionally happened that there was considerable difference in their dentition. These observations were illustrated by the case of the Tiger Beetles (*Cicindelidæ*), which offered a much greater range of diversity in their dentition than had hitherto been supposed. It was chiefly to the genus *Megacephala* that Mr. Westwood directed the attention of the members.

In the type of that genus (*Megacephala senegalensis*, Latr., Dej., *Cic. megalocephala*, Fabr.), an apterous species from Senegal, the right mandible of the male has two large, nearly equal-sized, acute teeth in the middle of the inner margin, the extremity being hooked and very acute; there is also a small tooth at the base of the large, broad, compound basal tooth. The left mandible is nearly similar, except that the two teeth in the middle of the inner margin are unequal in size, the upper one being the smaller of the two. The figure of the jaws of this species, given in the Crochard edition of the Animal Kingdom (Ins. pl. 16. f. 2 *a*), is very incorrect, being apparently reversed. The dentition of the female is almost identical with that of the male. In the allied bat-winged African species, *Megacephala 4-signata*, Dej., from Senegal, the toothing of the mandibles is similarly arranged, but the two teeth in the middle of the inner margin, in both sexes, are broad and obliquely truncate. In the male of *M. euphratica* (which has recently been observed to extend from Spain to India), the teeth are nearly as in *M. senegalensis*, except that the subapical tooth of the left mandible is considerably smaller. But in the species lately received from the north-west of Australasia (*M. Australasiæ*, Hope), we find a different arrangement as well as number in the teeth, the right mandible having three teeth in the middle of the inner margin (exclusive of the small tooth* at the base of the upper side of the large compound basal tooth), the upper one small, the middle one very small, and lower one large, all being acute. The left mandible has also three teeth in the same position,—the upper one very small, and the middle and lower one large and nearly equal in size.

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* This small tooth exists in all the species, and in both sexes; and as it appears to form part of the great basal tooth, I have omitted noticing it in the descriptions given in this paper.

On turning to the New-World species of the genus, we find four variations in the dentition of the mandibles; the group of pale species typified by *M. æquinoctialis*, Dej. (*bifasciata*, Brullé), corresponds almost identically in the dentition of both sexes with the old type (*M. senegalensis*), as described above, the right mandible having two equal-sized large acute teeth in the middle of the inner margin, and the left one also two, the upper one being very small. For this group I have proposed the subgeneric name of *Ammosia*, in allusion to their habits, which differ materially from those of the other species.

A black-coloured species from South America (*M. sepulchralis*, Fabr., *M. variolosa*, Dej.) differs from the *Ammosiæ* in the left mandible, while the inner margin has only one tooth in the middle, of considerable size, and exhibiting on its *under* side a minute tooth, being all that remains of the large middle tooth of the left mandible of the *Ammosiæ*. This species is the type of Mr. Hope's subgenus *Anaira*.

Another very fine Brazilian species (*M. testudinea*, Klug) differs in the dentition of the sexes in a more striking manner than any of the preceding. The right mandible of the male is long and sickle-shaped, with a small tooth obliquely truncated below the middle of the inner margin, and between this and the tip of the jaw is a minute acute tooth. The left mandible has two teeth on the inner margin above the middle, the lower one broad and acute, but rather obliquely truncate, whilst the upper one is very small. The right mandible of the female, on the contrary, has two very large equal-sized teeth in the middle of the inner margin, whereas the left jaw in this sex is quite similar to that of the male.

There still remains a numerous group of American species (the type of which is *Cic. Carolina*, Linn.), which differ from the rest of their continental brethren in possessing three teeth in the middle of the inner margin of each jaw, thus resembling the Australian species above noticed, and hence I proposed the name of *Tetracha*, or four-toothed, for this group, counting the acute apical portion of the mandible as a fourth tooth. In general, in both sexes, the tooth next below the apex of the jaw is equal in size to, or even larger than, the apical part or tooth itself (thus differing from the Australasian species), and the middle of the three teeth is smaller than the rest; but in the left mandible in the males the tooth below the apical tooth is even still larger, whilst the middle tooth is much smaller, and the lower tooth is quite minute. In the female, on the contrary, the middle one of the three teeth of the inner margin is rather larger than the upper one (which is only of a moderate size), and the lower one is small.

From these particulars (united with the peculiarities of colouring, geographical range and habits of the species) we are enabled to propose well-founded subgenera, a task which has hitherto been considered hopeless in the genera of *Cicindelidæ*. The Old-World spe-

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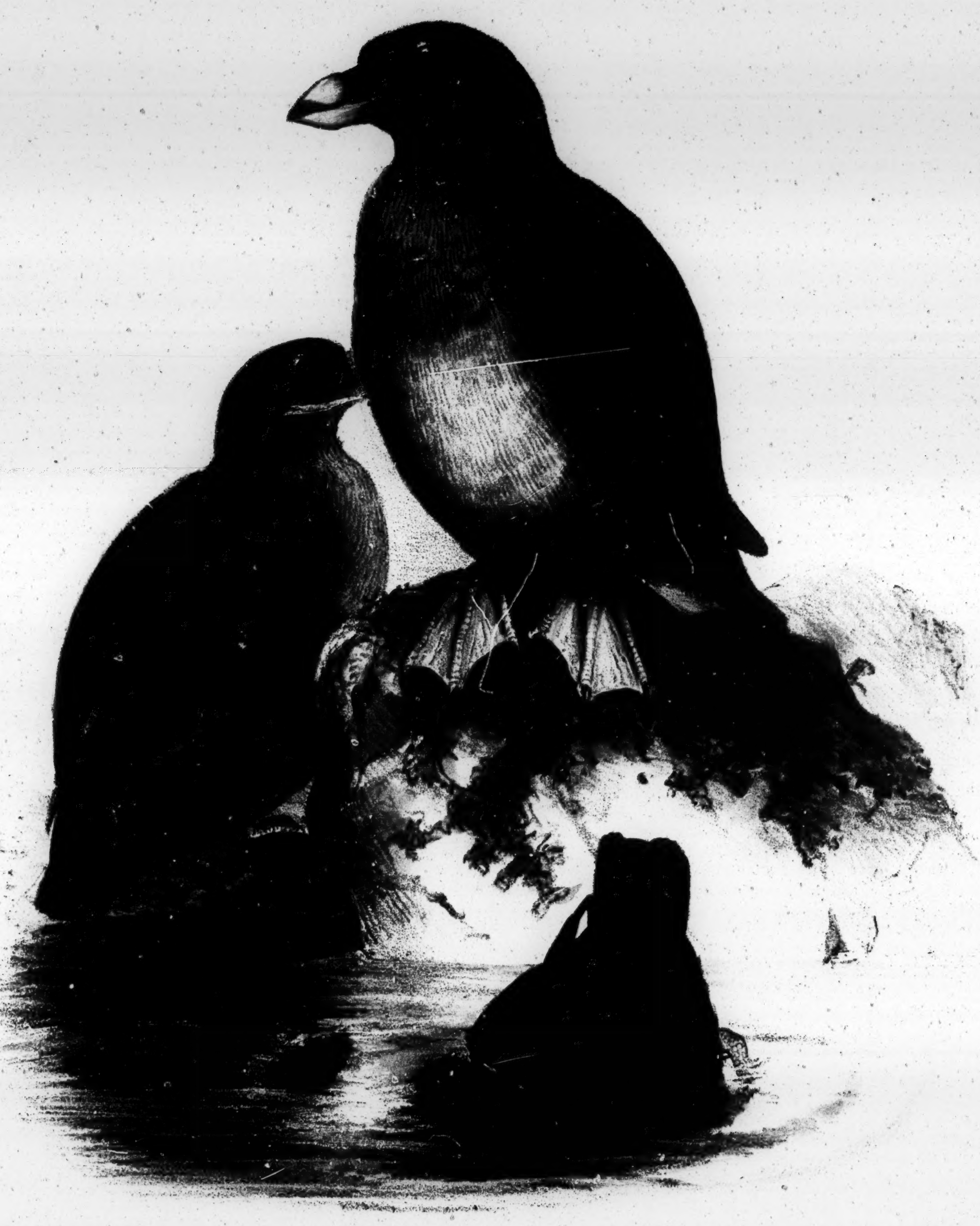
Proc. Z. S. Aves, XLIV.



J. Wolf, lith.

M & N Hanhart, Imp.

SAGMATORRHINA LATHAMI, Bp.

cies thus seem to form only one group, divisible however into still smaller sections from the presence or absence of wings, and form and colouring of the elytra; the Australian species stands alone; and the New-World species constitute the four following subgenera:—

AMMOSIA, Westw. Type, *M. bifasciata*, Brullé.

————, Westw. Type, *M. testudinea*, Klug.

ANAIRA, Hope. Type, *M. sepulchralis*, Fabr.

TETRACHA, Westw. Type, *M. Carolina*, Linn.

July 8, 1851.

In consequence of the death of the President, no meeting was held on this day.

July 22, 1851.

John Edward Gray, Esq., F.R.S. &c., Vice-President, in the Chair.

The following papers were read:—

1. ON THE LARGEST KNOWN SPECIES OF PHALERIDINE BIRD.

BY CHARLES LUCIEN, PRINCE BONAPARTE.

(Aves, Pl. XLIV.)

Among the new additions lately made to the British Museum I was struck by one of the *Alcidæ*, which I had never seen before, and which was very properly placed close by two beautiful specimens of my singular *Ceratorrhina*, also lately added to the zoological treasures of the English nation. The bird which is the subject of the present note is evidently the *Labrador Awk* of Latham, so miscalled from the erroneous impression that it came from those eastern shores of America, but too well described not to be recognized. Gmelin compiled his *Alca labradora* from the description of Latham, and all those who did not follow him blindly, have referred that indication to an immature state of the Razor-bill (*Mormon arctica*), a course in which they were led by geographical consideration only. Although our bird belongs to the family of the *Alcidæ*, it is not even an *Alcine*, as the Razor-bill, but, as is shown by the nakedness of the cere, it belongs to the other subfamily, or *Phaleridine*, of which it is at present the largest known.

In its family it is certainly allied to *Ceratorrhina,* but well deserving to constitute a genus by itself. The bill still more compressed, is in fact much more angulated beneath, and covered at the base, not by a bony process or *horn,* but by a soft membrane or *saddle,* which leaves a simple slit along the margins for the impervious nostrils.

Genus novum PHALERIDINARUM.

SAGMATORRHINA, Bp. Saddle-Bill.

Rostrum duplo longius quam altum; maxilla ad basin recta cerâ maximâ induta, apice incurva; mandibula ultra medium statim adscendens, angulum obtusum constituens; nares lineares, marginales.

As the bird has been so well described by Latham, Mr. G. R. Gray very properly suggests that its specific name should be taken from that author.

SAGMATORRHINA LATHAMI, Bp. *Maxima; nigricans; subtus albido-fuliginosa: rostro pedibusque rubris; cerâ palmisque nigris.*

Long. 16 poll.; rostr. 2 poll. long., 1 altum, $\frac{5}{8}$ latum ad basin, $\frac{3}{8}$ ad med.; alæ $7\frac{1}{2}$ poll.; cauda $3\frac{1}{2}$; tars. $1\frac{1}{4}$; digitorum longissimus $2\frac{3}{8}$.

This species is the largest of the subfamily, which is well known to contain the dwarfs of the Water birds; it is one-third larger than *Ceratorrhina monocerota,* of which it has precisely the colouring, wanting only (at least in the state we have it) the little white feathers above the eye and at the corners of the mouth. The proportions of wings, tail, feet and toes are the same: the bill and toes must have been reddish; the cere and membranes black. Like the *Ceratorrhina,* it seems to be confined to the North-western Arctic regions of America; and we are led to believe it does not extend to the Siberian shores, from the circumstance of its not having been noticed by Russian naturalists.

The well-marked family of *Alcidæ* forms, with the *Colymbidæ, Podicipidæ* and *Spheniscidæ,* the great section of the *Urinatores,* which, with the *Lamellirostres,* constitutes alone the Order *Anseres,* as it must be restricted to the *web-footed Præcoces* of Prof. Owen. The other two sections, *Longipennes* and *Totipalmi,* constitute now the Order *Gaviæ* of my Conspectus, being, in fact, *web-footed Altrices,* which have no more right to remain in *Anseres* than the *Pigeons* among the *Gallinæ,*—than the *Herodiones* among the *Grallæ.* The passage between my *Gaviæ* or *web-footed Altrices,* and my *Herodiones* or *grallatorial Altrices,* is beautifully exemplified by that most remarkable bird the *Balæniceps,* whose affinity with *Pelecanidæ* has so well been pointed out, and even exaggerated, by Mr. Gould. On the other hand, it is no less obvious that the *Longipennes,* some of which, with tumid bills, have been considered as *Sea-Pigeons,* connect them (the *Gaviæ*) with the *Columbæ*; whilst between the two subclasses the connections and correspondence (affinity and analogy) take place in different degrees and by different means and sides, chiefly as exemplified in the following table :—

AVES.

1. ALTRICES (Insessores).	2. PRÆCOCES (Grallatores).
1. Psittaci.	
2. Accipitres.	
3. Passeres.	
a. Oscines.	
b. Volucres.	
4. Columbæ.	
a. Inepti.	8. Struthiones.
b. Gyrantes.	9. Gallinæ.
5. Gaviæ.	10. Anseres.
a. Totipalmi.	*a.* Lamellirostres.
b. Longipennes.	*b.* Urinatores.
6. Herodiones.	7. Grallæ.
	a. Alectrides.
	b. Cursores.

2. On the Change of Colour in a Chamæleon (Chamæleo vulgaris). By H. N. Turner, Jun.

Notwithstanding that the peculiarity of the Chamæleon in changing its colour is so universally known, and that an illustrated work on the subject was published by Van der Höven, I have thought that a careful record of the varieties of tint, presented by the specimen which has lived for some time in my possession, might prove serviceable to the naturalist if compared with similar observations upon other species and upon the same one under different circumstances, and might also assist in the determination of the means by which it is effected, the influences by which it is regulated, and the objects which it serves in the œconomy of the animal.

Its general tints vary between different shades of brown, olive, yellow, and light green, the last-named being the most rarely observed, and the yellow being the tint usually assumed when the animal has been hidden from the light. This is the colour it always presents if taken for inspection at night, and when brought into the influence of lamp-light it appears at first almost white, but may soon be seen to darken and some of the markings to appear. The side that is next the light will change rather sooner than the other, the changes being always gradual. It has three distinct sets of markings, the first to appear being two ranges of irregular distant elongated spots, which may appear either as a dark tint upon the ground-colour when that is light, or a light one if it be dark. These marks are never entirely absent when either of the other sets is present, although sometimes but faintly discernible.

The other two sets of markings consist of an irregular marbling, and a number of full round spots; the latter never appear otherwise than as dark upon the ground-colour, and the marbling, which is generally also dark, only occasionally appears a little lighter than the ground-colour, and then of a different tone; either may be visible without the other, or both may be distinctly traceable. Sometimes the marbling will be apparent together with such of the spots as are placed within its intervals, those upon the surface occupied by the marbling being amalgamated with it.

When the general colour is light yellow or pale greenish, which is the case if the animal be suddenly brought into the light, the elongated spots, which form two rows on each side, will begin to appear of a very delicate purple tint. After that the marbling gradually shows itself, and the general tint begins to darken; when some time has elapsed a brown colour is assumed, and the elongate spots, at first purple of a darker tint than the yellow ground-work, are seen to be brown, of a lighter and rather richer tint than that which now pervades the whole. These distinctions may go on increasing, may then decrease and again increase; the spots may appear, may come and go with different degrees of intensity, so that the variety of appearances presented is almost indefinite. When visited in the day-time, the colour is generally brown, sometimes without markings, generally with the elongate spots of a lighter tint, and the marbling or the round spots, or both, more or less apparent. Occasionally it presents a uniform dull olive, and then has no markings. Sometimes it is of a light drab colour, with the different marks faintly indicated. The ventral series of prominent scales remains constantly white, as stated by Van der Höven, not participating in the changes of the surrounding parts.

This author does not in any of his plates represent the longitudinal rows of markings as a decided dark upon the ground-colour, nor is the marbling anywhere clearly shown as pervading the whole body; neither does he give the deep brown tint with the marbling as a dark, and the longitudinal rows of spots definitively marked as a light.

I have never seen my specimen present anything like the appearances delineated in his plates 4 and 5, probably because I have not irritated it.

It has generally been imagined that the purpose of this singular faculty accorded to the Chamæleon is to enable it to accommodate its appearance to that of surrounding objects, but the observations of Van der Höven seem to negative that idea, and the few experiments I have made with that view have not led to any such results. The box in which it is kept is of deal, with a glass at the top and a piece of flannel laid at the bottom; a small branching stick being introduced by way of a perch. I have introduced at various times pieces of coloured paper, covering the bottom of the box, of blue, yellow and scarlet, but without the slightest effect upon the appearance of the animal. Considering that these primary colours were not such as it would be likely to be placed in contact with in a state of nature, I next tried a piece of green calico, but equally without result. The animal went through all its usual changes, without their being in any way modified by the colours placed underneath it. The general tints approximate, as may readily be observed, to those of the branches of trees, just as those of most animals do to the places in which they dwell; but I have never seen the faculty of changing called into play with any apparent object. It is only when the light is removed that the animal assumes a colour which absorbs but little of it.

Regretting that I have not been able to attain any more definite conclusions, I offer these few remarks, hoping that to some naturalist, who may undertake the investigation of these singular phænomena, they may prove not to have been thrown away.

Pimlico, July 1851.

3. ON THE ARRANGEMENT OF THE EDENTATE MAMMALIA.

BY H. N. TURNER, JUN.

In offering to the Society a summary of my observations on the craniology of the Edentate order, I have not so great a number of hitherto unrecorded facts to bring forward as in some of my former communications. The very remarkable modifications which this order is seen to present, not only in comparison with the rest of the Mammalian class, but also among its own members, and the wonderful variety of extinct gigantic species which the New World has yielded to research, have caused the osteology of the group to be more minutely investigated; while the small number of species and the striking external differences which they exhibit, have left but little room for doubt in the minds of naturalists as to their true arrangement. I will therefore simply point out such of the cranial peculiarities as seem to be characteristic of the order and of its families and genera, dividing it, as appears to me necessary, into five families, since the two forms inhabiting the Old World differ so much from each other, and from the three groups into which those of the New World naturally divide themselves, that although each consists of a single genus, and one of but a single species, it seems requisite that both should stand distinct. It will also be necessary to remodel the genera of the Armadilloes, and to define them anew by their external characters as well as by those of the skull, since the presence of a tooth in each of the intermaxillary bones of a single species of the family has prevented the essential similarities and differences from being duly appreciated.

Although some few naturalists may still associate this order with the true Ungulata, for the sake of keeping the divisions of the class within the predetermined number five, I think that most of those who have given particular attention to the subject will agree, that so natural and strongly-marked a group is well worthy of isolation, which was the opinion of Linnæus and Cuvier, although the former wrongly associated with it a few genera belonging properly to other groups.

The characters possessed in common by the members of so diversified an order, must be expected to be comparatively few; those which I have observed in the skull are as follows:—

The tuberosity of the maxillary bone is articulated by the whole of its upper surface to the frontal and orbitosphenoid bones.

The zygoma is flat and straight, projecting at once outwards and forwards, its articulating surface being more or less confluent with a concavity at the inner side of it which forms a portion of a more or less elongated cone, whose apex would point backwards. In such forms as have the articulation longitudinal, the glenoid surface is distinguishable from that of Rodents by its posterior termination, which is *not* a thin free edge like the anterior.

The alisphenoid bone never extends high, so that the pterygoid ridge forms its upper boundary, or even extends above it.

The absence of enamel in the teeth, when they exist, must also be named among the cranial characters.

Fam. 1. BRADYPODIDÆ.

The intermaxillary bones confined to the lower part of the nasal opening; the maxillary bones provided with simple teeth, shortened, their malar processes much pushed forwards upon them, and the molar series converging behind; the posterior palatine foramina replaced by a series of minute openings extending the whole length of the palate; the malar bone having a descending masseteric process transversely compressed, longitudinally extended, and with a distinct superadded process arising between its frontal and zygomatic processes; the foramen rotundum distinct, and opening exteriorly at the base of the pterygoid process some distance below the spheno-orbital foramen and anterior to the foramen ovale; the zygoma straight and trigonal, its origin thick and extensive, reaching back quite to the posterior part of the squamous bone; the mastoid bone with a wide digastric fossa, and a strong thick styloid process, terminating in a circular concavity for the reception of the stylohyal bone; the lower jaw widened anteriorly with an extended symphysis.

It must be observed that the superadded process of the malar bone is peculiarly characteristic of this family, and is quite distinct from any of the processes of that bone to which special names have been assigned. It is situated between the frontal or postorbital and zygomatic processes, both of which seem also to exist in a more or less rudimental form in most of the known species; and when the latter is wanting as in the genus *Cholœpus*, the fact that the new process stands aloof, above the zygoma, is enough to prevent its being taken for the zygomatic process, which in all mammalia possessing a complete zygomatic arch either abuts simply against the extremity of the zygoma, or more generally seems to support it from beneath.

The zygomatic process is well developed in the *Megatherium*, and completes the arch, leaving the other, which might be called the supratemporal process, projecting above it. In *Mylodon robustus* the frontal process is reduced to a slight angle upon the base of the supratemporal process. In the *Scelidotherium* the process existing above the zygomatic process appears to be broken off, but the obliquity of its base renders it improbable that it would be the true frontal process so largely developed.

The circular pit for the attachment of the stylohyal bone is precisely similar in the Sloths to that in the large fossil genera, and it is somewhat remarkable that Prof. Owen, while describing the character in these extinct forms, should have made no allusion to its existence in the recent Sloths, even though Cuvier expressly points it out. The tongue is largely developed in this family, and the living sloth may be seen to make great use of it in taking food into its mouth, as was observed by Mr. Ball, in a short communication published in the 'Proceedings' some years back. On the other hand, it is long and slender in the insect-feeding tribes, so that the maximum degree to which it was developed in the *Glossotherium* is certainly no indication that such was the food of that remarkable genus.

CHOLŒPUS, Illiger.

Intermaxillary bones small, produced anteriorly; postorbital process well-developed; malar bone with a well-marked frontal process, but no zygomatic process, the supratemporal process projecting backwards or bent a little upwards; pterygoid bones inflated; crotaphite impression approaching near to the occipital ridge; tympanic bone reduced to a simple ring; lower jaw produced anteriorly, straight below, its condyle depressed; teeth $\frac{5-5}{4-4}$, simple, rounded, the anterior ones in each jaw enlarged, trigonal.

C. didactylus.

BRADYPUS, Gray.

Intermaxillary bones reduced or wanting; postorbital process slightly developed; malar bone with the frontal and zygomatic processes slightly marked, the supratemporal process rising obliquely; pterygoid bones inflated; crotaphite impression terminating at a considerable distance from the occiput; tympanic bone well-developed, forming a bulla; lower jaw with a flattened square process in front, deep posteriorly, the lower outline convex, the condyle elevated; teeth $\frac{5-5}{4-4}$, simple, rounded, the anterior ones similar, small in the upper jaw.

B. crinitus.

In addition to the character of the pterygoids, which, in the absence of actual knowledge, might possibly have belonged to age or sex, I find this species to be clearly distinguishable from those of the next genus by the great distance that intervenes between the posterior termination of the temporal fossæ and the occiput, which is much greater in the old specimens even than in the young of the genus *Arctopithecus*. The occiput also differs from them in being proportionally smaller, of a rounder form; the digastric fossæ converging a little superiorly, instead of diverging as in the other genus. The lower jaw also presents a character more decided than the anterior production which Mr. Gray points out in his paper on the genus *Bradypus*: it is much deepened behind, rendering the lower outline very convex. And further, there are certain characters pointed out by Cuvier in the 'Ossemens Fossiles' which appear to be constant, so far as I have been able to observe, as it is only in young specimens that the sutures are discernible. They are, first, that in this species, the *Aï à collier*, the nasal bones are bevelled towards the middle posteriorly, so that they form a point between the frontals, while in the other species they are bevelled in the opposite direction, the frontals descending between their extreme points. Secondly, that the palatine bone forms but a narrow slip within the orbit, and the alisphenoid bone occupies a much larger portion of the temporal fossa than in the other species.

The skull spoken of by Mr. Gray as being taken from a skin, presents characters intermediate between the other one and that upon which the *B. affinis* is founded, therefore I refrain from inserting the latter as a species until further evidences are obtained.

ARCTOPITHECUS, Gray.

Intermaxillary bones short and small; postorbital process slightly developed; malar bone with the frontal and zygomatic processes slightly marked, or the former wanting, the supratemporal process rising obliquely; pterygoid bones compressed and simple; crotaphite impression extending to very near the occipital ridge; tympanic bone well-developed, inflated; lower jaw with its inferior outline concave posteriorly, its condyle elevated; teeth $\frac{5-5}{4-4}$, simple, rounded, the anterior ones similar, small in the upper jaw.

A. GULARIS. *Aï à dos brulé.*

A broad patch of soft yellow hair between the shoulders, and a black line running through it down the back; the upper anterior molars proportionally larger, and the second less, than in the following species; the occiput again affords us a very good distinction, as it is much wider and not so deep as in the following species, and the foramen magnum not so large. Two skulls in the British Museum present these characters, and evidently belong to adult, probably aged, individuals; that of the skeleton, also from Bolivia, seems referable to the other species.

A. MARMORATUS.

Fur everywhere more or less lengthened, no yellow spots, dorsal line grey brown; anterior upper molars very small, the next rather larger than those which follow; occiput deeper and narrower than in the preceding species, its foramen larger.

The *A. Blainvillii* is not distinguishable by external markings, and the skulls bearing that name in the Museum collection all present a general robustness, such as age and sex might very probably occasion. One of them, which, from retaining some of the sutures, seems to be younger than the others, has the frontal bones less swollen, and the lower jaw with its angular process as much produced as in those labelled *marmoratus*, though deeper, but not so deep as in the others.

The *A. flaccidus* may be only a local variety, the skulls not being very clearly distinguishable, for there are not two between which some individual peculiarities may not be traced.

The skull to which the name *problematicus* is given is evidently young, having all its sutures well-marked, and in the absence of the fur cannot be safely looked upon as the type of a species. It agrees with the others in the character of the occiput, which distinguishes them all from the *A. gularis*, as well as from the *Bradypus crinitus*. The palæontologist is well aware of the uncertainty of establishing species upon trivial details of form, although slight distinctions are in some cases known to afford a true indication: the skulls of the Three-toed Sloths vary greatly, and all present a coarse, rough-hewn appearance which must detract from our confidence in little differences of detail. With regard to the lower jaw, they certainly do not present differences so strikingly characteristic as those upon which the species of *Mylodon* are established.

MEGATHERIUM, Cuvier.

Intermaxillary bones lengthened and prominent; postorbital process lengthened and drawn out, but not inflated; malar bone with its frontal and zygomatic processes well-developed, the latter attached firmly to the zygoma; the supratemporal process rising obliquely; pterygoid bones compressed, and not inflated; crotaphite impression approaching near to the occipital ridge; tympanic bone attached, small, and not inflated; (immediately in front of the circular facet for the stylohyal bone there descends a strong process, which may probably belong to the tympanic bone and form a portion of a vaginal process;) lower jaw produced in front, deepened in the middle by the extensive implantation of the molars, the condyle much elevated; teeth $\frac{5-5}{4-4}$, quadrate, grooved transversely on the crown when worn, the cæmentum being thickened on the anterior and posterior surfaces; the posterior upper one small.

M. CUVIERI.

Dr. Lund figures a tooth having the characters of this well-known genus, but of smaller size, under the name of *Megatherium Laurillardi*.

MEGALONYX, Jefferson.

General cranial characters unknown; teeth $\frac{?-?}{4-4}$, subelliptical, with a ridge on the inner side.

M. Jeffersonii.

MYLODON, Owen.

Intermaxillary bones small (lost in the skeleton); postorbital process but little developed, thick; malar bone with the frontal process indicated by a slight angle, the zygomatic well-developed, touching the zygoma, the supratemporal process rising obliquely; pterygoid bones thin and compressed; crotaphite impression approaching near to the occipital ridge; tympanic bone reduced and separate; (the foregoing characters can of course apply only to the *Mylodon robustus*, it being the only species of which the cranium is known;) lower jaw broad and more or less prolonged in front, the lower outline straight, the condyle depressed; teeth $\frac{5-5}{4-4}$, the anterior ones rounded or trigonal, the posterior ones larger, trigonal in the upper jaw, gradually becoming bilobed in the lower. The species can only be characterized by the lower jaw, as it is the only part that is known in all of them. The characters are taken chiefly from Prof. Owen's works.

M. Darwinii.

Lower jaw much produced anteriorly, with a double mammelliform tuberosity upon the symphysis below. The first tooth rounded or subtrigonal, the second subelliptical, with a slight depression on the inner side; the third subquadrate, grooved on the inner side; the posterior internal angle produced; the fourth bilobed, sharply grooved on the inner side.

M. Harlani.

Lower jaw with the symphysis short; the second tooth subquadrate, grooved on the inner side, with the posterior internal angle produced; the third trapezoid, obliquely placed, with the inner side rounded; the fourth bilobed, the inner groove biangular, and a small shallow one anterior to it.

M. robustus.

Lower jaw produced and very broad anteriorly, the first tooth round, the second subtrigonal, grooved internally, the third subquadrate, oblique, the fourth bilobed, with a deep scallop on the inner side and a smaller one anterior to it.

Glossotherium, Owen.

Crotaphite impression approaching near to the occipital ridge; tympanic bone reduced and separate. The general cranial characters are unknown, but the fragment is recognizable by the great size of the surface for the stylohyal bone, and of the precondyloid foramen.

Scelidotherium, Owen.

Malar bone with a well-developed zygomatic process; the character of its frontal process cannot be determined through mutilation of the specimen; crotaphite impression approaching near to the occipital ridge; tympanic bone reduced and separate; lower jaw greatly curved below, its condyle depressed; teeth $\frac{5-5}{4-4}$, transversely extended, the anterior ones fully as large as the others, the first in each jaw elongate trigonal, the others gradually becoming bilobed, the last upper one trigonal.

S. leptocephalum.

Platyonyx, Lund.

This genus is proposed by Dr. Lund, to include a series of species discovered by him, the first three of which he had previously referred to the genus *Megalonyx*, and Prof. Owen, in the conspectus at the end of his memoir on the *Mylodon*, has placed them in his genus *Scelidotherium*; but I prefer to adopt, for the present, Dr. Lund's latest arrangement, since in the lower jaws figured, the last lower molar has a deep groove on its posterior side, and the fourth species, of which an entire skull is figured (tab. 38), agrees in this character, and shows a marked distinction from the *S. leptocephalum* in the zygomatic arch being incomplete; the malar bone has no frontal process, and but a slight angular indication of the zygomatic process.

P. Cuvieri.
P. Bucklandi.
P. minutus.
P. Brongniartii.

In addition to these, Dr. Lund represents a metacarpal bone of a species which he calls *P. Owenii*, and an os scaphoides of the foot of another, which he names *P. Agassizii*.

The genera *Cœlodon* and *Sphenodon* of Dr. Lund seem open to the objection suggested by Prof. Owen, namely that the teeth would be first developed in the form of hollow obtuse cones, not assuming the cylindrical form until worn down to the part which has acquired in process of growth the normal thickness; but while I feel naturally cautious of introducing into my category any genera or species, the establishment of which is not made fully satisfactory to my mind, I must not be considered as rejecting any of those of Dr. Lund, when his illustrations and lists of names are the only evidences I can attain; since his original specimens are far beyond my reach, and my ignorance of the Danish language prevents my comprehending his descriptive memoirs.

Fam. 2. Dasypodidæ.

The nasal bones long, of nearly uniform width, their extremities projecting forwards beyond the intermaxillaries; the intermaxillaries are portions of cylinders, reaching further especially on their palatal surface than in the other families; the maxillary bone swollen and provided with simple teeth; its zygomatic process projecting boldly outwards, and a ridge continued from it for the masseter, the molar series diverging behind; the posterior palatine foramina are replaced by a row of minute openings extending the whole length of the palate; the malar bone, when there is a descending masseteric process, or a rudiment of one, has it compressed longitudinally, extended transversely; the foramen rotundum is included in the foramen spheno-orbitarium; the zygoma is flat, gently twisted upwards towards its extremity; the mastoid bone with a deep narrow groove, containing one or more mastoid foramina; the basi-occipital bone with a transverse depression just anteriorly to the edge of the foramen magnum, and (excepting in the genera *Tolypeutes* and *Glyptodon*) with an articular surface upon the lower edge of that foramen receiving the odontoid process of the axis when the head is deflexed;

the occipital condyles are portions of cylinders, placed horizontally, each in a line with the paroccipital process; the precondyloid foramen is placed close to the condyle; the supra-occipital bone is broad above, forming on each side a strong thickened ridge; the lower jaw is narrowed and slenderly produced anteriorly.

The true affinities existing among the various Armadilloes have been rightly perceived by the Baron Cuvier, and are well pointed out in the 'Ossemens Fossiles'; but he did not designate the subgenera by any particular names, and naturalists, for the most part, have adopted the arrangement of Mons. F. Cuvier, which limits the genus *Dasypus* to the single species that has teeth in the intermaxillary bone, and unites all the rest, excepting the Giant Armadillo, under the generic name *Tatusia*. Mr. Gray, in the 'List of Specimens of Mammalia in the British Museum,' has adopted in addition the genus *Xenurus* of Wagler, and it will be further necessary to make use of Illiger's genus *Tolypeutes* for the Apara or Three-banded Armadillo. The species *villosus* and *minutus* must be associated, as Baron Cuvier has done with the *Encoubert* in the genus *Dasypus*.

The groups recognized in the 'Ossemens Fossiles' being thus restored and the names proposed by other authors applied to them, I shall proceed to characterize them by their external armour, by which they may very easily be distinguished, and to add the characters of the cranium, in which my observations have been assisted by the immortal work alluded to.

TATUSIA.

Ears thrown backwards and approximated; plates of the head of irregular shape and smooth; those of the scapular and pelvic shields much smaller than those of the bands, and surrounded with others smaller still; fore-feet with four toes, the claws straight, the index and medius nearly equal, the pollex and annularis small; maxillary bone terminating in a pointed process behind; teeth rather small, none of them being further back than the root of the malar process; this process concave anteriorly, projecting outwards and backwards; the infra-orbital canal entirely below it; malar bone simply a portion of an inverted arch, hollowed on the outer side for nearly its whole length by the masseteric impression, merely abutting against the zygoma; palatine bone reduced in vertical extent, being encroached on above by a large thickened portion of the ethmoid bone which appears in the orbit, the sphenopalatine foramen being a narrow fissure between them; pterygoid bone simply bordering the termination of the palatine, without hamular process; zygoma compressed and elevated, its glenoid surface circular; tympanic bone reduced to a ring; mastoid narrowed; lower jaw slender, its condyle but little elevated, transverse and flat, coronoid process elevated.

T. SEPTEMCINCTA.

Ears about one-third of the length of the head; plates smooth; tail as long as the body.

T. affinis of Dr. Lund may possibly be identical.

T. HYBRIDA.

Ears about one-fourth of the length of the head; plates of the pelvic shield convex and elevated; tail about two-thirds of the length of the body. The characters of this species, which was named by M. Desmarest, are carefully pointed out by Mr. Martin in the 'Proceedings' of the Society, January 1837.

Cuvier speaks of a third species brought from Brazil by M. de Saint-Hilaire, under the name of *Tatou verdadeiro*, differing from the mule Armadillo in having the tail terminated by a horny sheath of one piece, the bands broader, and the plates of the pelvic shield larger.

Dr. Lund figures two ossicles of a *Tatusia*, indicating dimensions much greater than those usually attained by specimens belonging to the genus, and applies the name *Dasypus punctatus*. I find in the Museum of the College of Surgeons a recent carapace, denuded of its horny epidermal scutes, and wanting the scapular shield; it is as large as Dr. Lund's figures would imply, and has the same punctate depressions in the grooves which mark the surfaces of the component ossicles. It differs from a smaller one, still a large specimen, also denuded of the epidermal scutes, in the latter having the central area of each ossicle a little elevated at its posterior margin, and the punctate depressions fewer and smaller behind this area than in front of it; while in the larger specimen they are all about equal in size.

It is difficult to compare these specimens with those which retain their natural covering; but the punctate character seems to belong to the genus rather than to the species, it not being perceptible until the horny scutes are removed: and whether the *Tatusia punctata* be a species, or merely a large variety of one of the others, it would appear not to be extinct.

CHLAMYPHORUS, Harlan.

Plates of the head, the scapular shield and the body forming an uninterrupted series, each a parallelogram, those of the neck smaller, and those of the muzzle irregular; pelvic shield small, flat, or slightly convex, placed vertically, at right angles to the dorsal armour, and composed of concentric semioval rows of trapezoid plates; fore-feet with five toes, the medius being the longest, the two inner claws the smallest, and the three outer ones very deep and compressed; frontal bone with a large thickened process above the eye; malar bone thin, deep anteriorly, with a rudiment of a descending masseteric process assuming a transverse position; auditory process bending forwards round the base of the zygoma; lower jaw with the ascending ramus much elevated, the condyle higher than the coronoid process.

C. truncatus.

DASYPUS.

Head broad behind, ears wide apart, its plates irregular, marked like those of the body; those of the scapular and pelvic shields oblong parallelograms, like those of the bands, but becoming pentagonal or hexagonal towards the neck and croup—all the plates marked with an indented pattern; bands about six or seven; fore-feet with five toes, the index nearly as thick as the medius, which is the longest, the claws a little twisted outwards; maxillary bone terminating behind in a strong vertical column formed by the alveolus of the last tooth, and concealing the sphenopalatine and pterygo-palatine foramina; teeth rather large; malar process compressed in the antero-posterior direction, suddenly projecting, concave anteriorly; infra-orbital canal short, pierced through the base of the process; malar bone angular, with a rudiment of a descending process, compressed in the antero-posterior direction; its zygomatic process deep, extending beneath the zygoma; palatine bone ascending into the orbit; no appearance of the ethmoid within the orbit; pterygoid bones with well-defined hamular processes, bent outwards; zygoma well-developed, flat; its glenoid surface slightly convex, reniform; tympanic bone well-ossified, forming a bulla; auditory process largely developed; mastoid bone very broad, placed entirely in the occipital region; lower jaw deep and thick, its ascending ramus high; coronoid process largely developed, condyle broad.

D. SEXCINCTUS.

Muzzle broad; plates large, distinct, but slightly indented; bands six or seven, *no* separate band on the anterior edge of the scapular shield; terminal plates of the bands and pelvic shield small; hairs few, white; teeth $\frac{9-9}{10-10}$, the first upper one on each side being in the intermaxillary bone.

D. VILLOSUS.

Muzzle broad; plates closely united, roughly tubercular, those of the bands closely united and small; bands eight; a separate band on the anterior edge of the scapular shield, behind the row of nuchal plates; terminal plates of the bands and pelvic shield large and falcate; hairs profuse, brown.

D. MINUTUS.

Muzzle tapering, narrow at the end; plates of the head smooth, those of the shield and bands closely united, and flatly tubercular; terminal plates of the bands and pelvic shield large and falcate; bands six or seven; a separate band on the anterior edge of the scapular shield, behind the row of nuchal plates; upper parts with black hairs; sides of the head and limbs with brownish hairs; under parts with whitish hairs; teeth $\frac{8-8}{9-9}$, none in the intermaxillary bones, nasal and intermaxillary bones lengthened.

XENURUS, Wagler.

Head broad behind, ears wide apart, its plates irregular, smooth; those of the scapular shield irregular in the middle, hexagonal towards the sides; bands twelve, composed of short and square plates; pelvic shield with square plates in the middle, becoming hexagonal towards the sides; tail almost naked; fore-feet with five toes, the index longest, but very slender, the three outer toes rapidly diminishing in length, but furnished with large claws, twisted outwards; maxillary bones articulated posteriorly by suture to the palatine, its malar process thick, rounded anteriorly; malar bone but slightly angular, its zygomatic process extending beneath the zygoma; palatine bone ascending into the orbit, and pushing up the sphenopalatine foramen into a fossa which contains the foramina of the orbit; pterygoid bones with their hamular processes styliform, projecting backwards; zygoma small, rounded above; tympanic incompletely ossified; mastoid bone broad, placed obliquely; lower jaw slender, its condyle elevated, reniform; coronoid process feebly developed, lower than the condyle.

X. UNICINCTUS.

Cuvier mentions a species with a shorter and more entirely naked tail; it is probably the same that has been called *nudicaudis* by Dr. Lund. *X. antiquus* of the same distinguished author may possibly be identical.

PRIODONTES, Frederick Cuvier.

Head broad behind, ears wide apart; plates of the head and body as in *Xenurus*; tail closely covered with quadrangular scales, placed in a quincuncial arrangement; fore-feet as in *Xenurus*, the outer toe much reduced; maxillary bone articulated posteriorly by suture to the palatine; teeth numerous and minute; infra-orbital canal long, commencing below the malar process, and terminating nearly on the middle of the bone; malar bone forming simply a portion of an inverted arch, round, and devoid of processes; palatine bone ascending into the orbit; pterygoid bone strongly developed, with an angular termination; zygoma rather small, the glenoid surface lengthened, the lower part of the squamous and the alisphenoid bone forming a longitudinal swelling within it; tympanic bone small, and loose; mastoid bone broad, forming the sides of the occiput which are rounded; lower jaw thin and compressed, condyle longitudinal, but little elevated; coronoid process much reduced.

P. gigas.

TOLYPEUTES, Illiger.

Head broad behind, ears wide apart; plates very closely articulated to each other, their surface divided by impressed marks, and studded with blunt tubercles, those of the scapular and pelvic shields varying from a square to a pentagonal or hexagonal form; bands three, composed of oblong parallelograms, equally subcircular, and closely articulated; fore-feet four-toed, the outer being absent; the medius slightly longer than the index, with a much larger claw, both having an outward twist; maxillary bone articulated posteriorly to the palatine, its malar process standing suddenly outwards, compressed; infra-orbital canal commencing below and behind its root, rather lengthened, rising a little in its course; teeth rather large; malar bone slender, and simply abutting by an oblique suture against the zygoma; palatine bone ascending into the orbit, pterygoids with blunt hamular processes, a little bent outwards; zygoma rather narrowed, glenoid surface flat, reniform; tympanic bone reduced to an annular form; lower jaw slender, condyle moderately elevated, reniform, coronoid process elevated.

T. TRICINCTUS.

Cuvier cites the *Cheloniscus* of Fabricius Columna as being this species, but represented with four bands instead of three; the last row of plates of the scapular shield is composed of oblong parallelograms like those of the bands, which may have given rise to such an error.

CHLAMYDOTHERIUM, Lund.

Judging by the plates that accompany Dr. Lund's Memoir, this appears to be a genus of extinct gigantic Armadilloes, having the body provided with moveable bands like the recent ones, and teeth of a compressed form, and irregularly fluted; two species are distinguished.

C. Humboldtii. *C. giganteum.*

HETERODON, Lund.

Distinguished by the unequal sizes of the teeth: the fragment of the lower jaw figured contains six teeth, of which two are much larger than the others.

H. diversidens.

EURYODON, Lund.

Dr. Lund figures a tooth resembling those of the Armadilloes, but apparently broader in proportion to its antero-posterior diameter.

E. latidens.

GLYPTODON, Owen.

Carapace ovoid, without distinction of shields or bands, composed of small hexagonal pieces with sculptured surfaces; teeth divided into narrow transverse lobes; malar bone with a lengthened descending process, placed transversely; zygoma flat, its glenoid surface elevated, transversely elongate, looking a little backwards; mastoid proportionally small, placed laterally.

G. CLAVIPES.

The central tubercle upon each ossicle large, round, or subhexagonal, conspicuous above the surrounding ones, which are small, and more cut up by reticulate depressions.

G. ORNATUS.

The central tubercle of each ossicle not conspicuously marked above the rest; all more finely granular.

This may possibly be the young of that to which the name *reticulatus* has been applied, and which, therefore, I will at present omit.

G. TUBERCULATUS.

Ossicles approaching to a square or rhomboidal form, their surface divided into numerous irregular elevations.

The genus *Hoplophorus* of Dr. Lund appears to be identical with *Glyptodon*; he figures two teeth in which the characters of that genus are clearly shown, and several detached ossicles and portions of carapace bearing a general resemblance to the species of *Glyptodon*, principally to the *G. ornatus*. He distinguishes two species, the *H. Euphractus* and *H. Selloi*. Prof. Owen refers to the *H. Euphractus* a portion of carapace brought home by Mr. Darwin, and figured in the 'Voyage of the Beagle,' which very closely resembles those afterwards figured in the 'Catalogue of Fossil Mammalia and Aves in the Museum of the Royal College of Surgeons' under the name *G. ornatus*.

I am not as yet acquainted with the *Pachytherium magnum* of Dr. Lund's catalogues.

Fam. 3. MYRMECOPHAGIDÆ.

The nasal bones simple, of uniform width, emarginated at the ends; the intermaxillary bones much reduced; the maxillary bones much lengthened, toothless, the malar process projecting backwards, outwards and downwards; the posterior palatine foramen single, or wanting; the malar bone reduced to a slender stylet free at the posterior end; the foramen rotundum included in the foramen spheno-orbitarium; the zygoma very small, and pushed quite to the anterior superior angle of the squamous portion; the supra-occipital bone encroaches upon the upper surface of the skull, and has a median protuberance; the lower jaw much lengthened and slender at the end, without coronoid process.

Not having seen the skull of the little Two-toed Ant-eater, I have used a little caution in characterizing this family. For example, I have avoided alluding to the peculiar character of the pterygoids, as Cuvier informs us that they do not enclose a long canal as in the larger species. I therefore limit the diagnoses of the genera to the few points, in which, in the absence of a skull of the small species, they are known to differ*.

MYRMECOPHAGA, Linnæus.

Fore-feet with four toes; hind-feet with five toes; palatine and pterygoid bones united beneath the nasal canal for their whole length.

M. JUBATA, Linn.

Varied with black and grey, the latter predominating on the head, back, sides, fore-limbs and tail; throat, a mark running obliquely from the shoulder upwards and backwards, and hind-limbs black; fur very coarse; tail but little longer than the body, very bushy.

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* I have since seen the cranial portion of the skull of the Little Ant-eater, and find that although the pterygoid bones do not enclose the nasal canal below, they resemble those of the larger species in their great extent backwards.

M. TAMANDUA.

Head, shoulders, fore-limbs, outside of the hind-limbs, and middle third of the tail white; a stripe from each side of the neck over the shoulder and remaining parts black; tail but little longer than the body, its terminal third scaly. Varies chiefly by the diminution of the intensity of the black.

I have found that the Yellow Ant-eater, hitherto considered to be one of the varieties of this species, differs remarkably in the length and size of the tail; the ears also appear to be larger, but this latter character is less decisive, owing to the different degrees to which they may shrink when dry. A specimen in the British Museum, and one in that of this Society, resemble each other exactly, while a young pale specimen of *M. Tamandua* has a tail proportionally of the same length as the larger and darker individuals. Under these circumstances I have been induced to propose a name for the Yellow Ant-eater, deeming it probable that the species may be distinct.

M. LONGICAUDATA.

General colour uniform light ochraceous, a paler line runs down the middle of the back; tail nearly double the length of the body, its terminal half covered with small scales and a few scattered black hairs; ears large, round, about one-third the length of the head.

Although the flanks show a slightly darker reflection in certain directions of the light, there is no trace of the mark which runs across the shoulder.

On referring to the figure, in Krusenstern's Voyage (tab. 6 *e*), on which M. Desmarest founded his *Myrmecophaga annulata*, I find it to be a very excellent representation of a Coati-mondi, probably the brown species. The head is bent downwards, the tongue protruded, and curved beneath the left fore-foot; from under the further side of the foot there comes a small twig of a tree, which, if it were not branched, would look like a continuation of the tongue. But the figure published in Griffith's translation of the 'Règne Animal' is not so easy to interpret. The general form of the body is more like that of an Ant-eater, though rather too long and slender; the tapering head and the dark stripe from the end of the muzzle to the eye remind one of the *Myrmecobius*, which was not known until several years afterwards; the tail is just such as a Coati-mondi might have supplied. The figure is said to have been drawn from a stuffed specimen, but the authors do not state where the specimen existed, and possibly may never have seen it.

Cuvier asserts, with much probability, that the animal from which Buffon took his figure of the *Tamandua* was made up of the skin of a Coati-mondi, to which striped markings had been artificially applied.

CYCLOTHURUS, Gray.

Fore-feet with two toes, the outer one much the larger; "the palatines only meet below for two-thirds of their length, and the bony canal of the nares there terminates, the pterygoids not meeting, but presenting only two long parallel and little prominent crests."

C. didactylus.

Dr. Lund inserts in his lists of fossil species one which he has named *Myrmecophaga gigantea*, but I have seen no representation of any portion of the animal among the figures published.

Fam. 4. Manidæ.

The intermaxillary bones small, having ascending processes running upwards and backwards; each encloses a separate incisive foramen; the maxillary bones short, toothless, their malar processes projecting backwards, outwards and downwards; the palatine bones much spread out in front, and with distinct posterior palatine foramina; the malar and lacrymal bones wanting, but a large lacrymal opening; the alisphenoid bone much reduced; the zygoma deep, thin, concave exteriorly, and pushed downwards to the anterior and inferior angle of the squamous portion; the occipital condyles prominent, oblique, the precondyloid foramina at some distance anterior to them.

This family consists of but one genus, containing several well-marked species.

Manis, Linnæus.

In characterizing the species of this genus, I give the number of scales in each transverse row, instead of the number of longitudinal rows, which has been the usual method adopted. The number in each case will appear much less, but it will be recollected that this is owing to the scales of one row being alternate with those of the next one.

M. pentadactyla, Linn. (*macroura*, Desm.)

Each transverse row of scales composed of three on each side of the median one; scales striated at the base, smooth at the end, the striated part distinctly separated from the smooth portion; ends of the scales simple; under parts naked; tail very broad at the base, about equal to the body in length; fore-feet five-toed, the claw of the medius much the largest, that of the annularis next, that of the index much less, the other two very small; hind-feet with lengthened claws; limbs scaled to the bases of the claws.

M. javanica, Desm.

Four scales on each side of the median one in each transverse row, the lower ones on each side, and the lateral ones beneath the tail, keeled and pointed at the ends; tail broad at the base, equalling the head and body in length; under parts with short white hairs; limbs scaled to the bases of the claws; fore-feet with the middle claw largest, the index a little less than the annularis, the others very small; hind-feet with lengthened claws.

M. Temminckii, Smutz.

Body altogether very broad; scales broad, three on each side in every transverse row, striated to the tips which are rounded, none of them carinate; under parts naked; tail about the length of the body, broad and rounded at the end; limbs scaled to the bases of the claws;

fore-feet with the middle claw largest, the two next less, the remaining two much less; those of the hind-feet vertical, truncated.

M. TETRADACTYLA, Linn. (*Africana*, Desm.)

Scales large, three on each side in every transverse row, striated to the tip, which is square, with a point projecting from the middle, the lower ones at the sides and the lateral ones beneath the tail carinate; tail double the length of the body, a little narrowed at the base, soon becoming broad; limbs only scaled at the base, then covered with black hairs like the under parts; fore-feet with the middle claw very long and compressed, the index and annularis much less and nearly equal, the minimus less still, the inner toe very small; hind-feet with lengthened claws, nearly equal.

M. MULTISCUTATA, Gray, Proc. Z. S. Feb. 1843.

Five scales on each side of the median one in every transverse row; scales striated to the tip, which is square, with a median point; those on the sides of the trunk and limbs, and the lateral ones beneath the tail, carinate; tail nearly double the length of the body, of moderate width; under parts with short whitish brown hairs; fore-limbs scaled to the carpus; toes all well-developed, except the thumb, which is small, the medius longest; hind-feet scaled nearly to the base of the claws, which are all lengthened and well-developed, except the thumb, which is small; the annularis nearly as long as the medius.

M. aurita, Hodgson.

Fam. 5. ORYCTEROPODIDÆ.

The nasal bones long and much spread out behind, narrowed and not projecting anteriorly; the intermaxillaries well-developed, prominent below, not enclosing foramina; the maxillary bones lengthened and deep, provided with compound teeth; the palate terminating soon with a strong transverse ridge, having a pair of large posterior palatine foramina; the lacrymal bone large, extending much upon the face; the malar bone large, extending much upon the face, but its zygomatic process small and slender; the frontal bone large and swollen, with a small and contracted post-orbital process; the parietals extended downwards at their anterior inferior angles to articulate with the alisphenoids; the zygoma slender, twisted as in the Armadilloes; a strong post-articular and a post-auditory process, and just within the latter a short truncate styloid process, not enclosed by any vaginal process, as the tympanic bone is much reduced and separate; the occipital condyles hemicylindrical, but with a portion of articular surface continued from them upon the lower edge of the foramen magnum; the paroccipital processes in a line with them, but distinctly separated.

As this family consists, so far as is yet satisfactorily known, of a single species, its characters might be multiplied to almost any extent; should another form be discovered, they will of course need revision.

This communication having extended far beyond the length that I at first contemplated, notwithstanding that I have limited myself in most cases to the distinctive peculiarities of the skull, it will readily be seen that, had I entered upon the whole osteology of the order, or even introduced in every instance the characters by which the genus or species may be known externally, I should have swelled this little monograph to such a degree as almost to preclude its insertion in the 'Proceedings' of the Society, and entailed upon myself an amount of labour from which I would by no means shrink, but fear I shall be compelled to defer until more favourable opportunities present themselves; but I trust that the little I have as yet accomplished may afford the naturalist a clearer insight into the relations of the living Edentata among themselves, and with those that formerly peopled the portion of the world which was then, as now, the principal abode of this remarkable group.

Pimlico, July 1851.

4. A MONOGRAPH OF SCUTUS, A GENUS OF GASTEROPODOUS MOLLUSCA, BELONGING TO THE FAMILY FISSURELLIDÆ.

BY ARTHUR ADAMS, R.N., F.L.S. ETC.

Genus SCUTUS, De Montfort.

Animal with the head proboscidiform; tentacles thick and subulate, with the eyes on tubercles at their outer bases; mantle reflexed over the sides of, and nearly covering, the shell; sides of foot with a series of short cirrhi.

Shell oblong, scutiform, flattened; apex dorsal, oblique, posteriorly inclined; margin of aperture sinuated in front; muscular impression horse-shoe shaped, open anteriorly.

Parmophorus, Blainv.—*Dascinus*, Rafin.—*Scutellites*, Auct.—*Scutum*, Sow. jun.—*Parmophora*, Desh.—*Emarginula*, sp. Sow.—*Patella*, sp. Lamk.

1. SCUTUS UNGUIS, Linn.

Patella unguis, Linn. Mus. Ludovic. Ulric. Regin. p. 69. no. 419. —*Patella ambigua*, Chemn.—*Scutus antipodis*, Montf.—*Parmophorus australis*, Lamk.—*Parm. elongatus*, Blainv.

Hab. New Zealand. Mus. Cuming.

2. SCUTUS ELONGATUS, Lamarck.

Patella elongata, Lamk. Ann. du Mus. i. p. 310.—*Parmophorus elongatus*, Lamk. Hist.—*Emarginula elongata*, Sow. Gen.

Hab. East Australia. Mus. Cuming. Also occurs fossil.

3. SCUTUS GRANULATUS, Blainv.

Parmophorus granulatus, Blainv. Bullet. des Scienc. 1817; Lamk. Hist. An. s. Vert. vol. vii. pt. ii. p. 5; Reeve, Conch. Syst. pl. 139. f. 4.

Hab. Port Essington, on the rocks, low water. Mus. Cuming.

4. **Scutus corrugatus**, Reeve.

Parmophorus corrugatus, Reeve, Proc. Zool. Soc. 1842; Conch. Syst. pl. 139. f. 1.

Hab. ——? Mus. Cuming.

5. **Scutus tumidus**, Quoy et Gaimard.

Parmophorus tumidus, Quoy et Gaim. Voy. de l'Astrol. pl. 69. f. 6. —*Parm. gibbosus*, Anton.—? *Parm. breviculus*, Blainv. Bull. des Sci. 1817; Sowerby's Gen. (Emarg.) fig. 2.

Hab. Madagascar. Mus. Cuming.

6. **Scutus imbricatus**, Quoy et Gaimard.

Parmophorus imbricatus, Quoy et Gaim. Voy. de l'Astrol. pl. 69. f. 17, 18.

Hab. Island of Burias. Mus. Cuming.

7. **Scutus angustatus**, A. Adams. *S. testâ elongatâ, subquadrangulari, lateribus angustatis, coarctatis; dorso plano, concentrice striato, vertice subcentrali, postice declinato; extremitate anticâ sinuatâ, posticâ excurvatâ, subelevatâ.*

Hab. Eastern Seas. Mus. Cuming.

5. A MONOGRAPH OF THE GENUS MONOPTYGMA OF LEA.

BY ARTHUR ADAMS, R.N., F.L.S. ETC.

Genus Monoptygma, J. Lea. (? *Menestho*, Müll.)

Animal unknown.

Shell subulately turreted, transversely striated, apex simple, acute; aperture oval, longer than wide, rounded and entire in front; columella with a single oblique fold.

This genus differs from *Actæon* in being elongated, and in having an oblique fold, instead of a transverse plait on the columella.

1. **Monoptygma striata**, Gray. *M. testâ turrito-subulatâ, solidâ, olivaceâ, anfractibus planis, transversim sulcatis, sulcis profundis, distantibus; aperturâ oblongâ, intus albâ.*

This species, which is typical, is a very thick and strong shell, with a somewhat convex lateral outline, and strongly transversely grooved across the flattened whorls. Mus. Cuming.

2. **Monoptygma fulva**, A. Adams. *M. testâ turrito-subulatâ, graciliori, solidâ, fulvâ, anfractibus planis, transversim sulcatis, sulcis profundis, distantibus; aperturâ oblongâ, intus fuscâ.*

This elegantly-formed shell is more slender than *M. striata*, and of a different colour; the transverse grooves are also much closer together, and their edges are rounded; the twist of the columella is not so distinct, and the aperture is brown internally. Mus. Cuming.

3. **Monoptygma granulata**, A. Adams. *M. testâ ovato-turritâ, albâ, solidâ, anfractibus planiusculis, gradatis, longitudi-*

naliter corrugato-plicatis, transversim sulcatis, sulcis profundis, valde distantibus; interstitiis lævibus; aperturâ oblongâ, columellâ plicâ subproductâ.

This is a rather short and obtuse white and solid species, very strongly grooved transversely, and with the whorls longitudinally corrugately plicated. Mus. Cuming.

4. **Monoptygma lauta**, A. Adams. *M. testâ turrito-subulatâ, albidâ, tenui, subpellucidâ, anfractibus planiusculis, longitudinaliter eleganter striatis, transversim sulcatis, sulcis distantibus, interstitiis crenulatis; aperturâ oblongâ, columellâ obliquâ et curvatâ.*

A very beautifully-sculptured species, dredged from 10 fathoms, at Bolinao, by Mr. Cuming; the outline is subulated, and the whorls rather flattened and longitudinally striated. Mus. Cuming.

5. **Monoptygma amœna**, A. Adams. *M. testâ ovato-acuminatâ, tenui, subpellucidâ, albidâ, longitudinaliter substriatâ, anfractibus convexiusculis, transversim sulcatis, sulcis valdè distantibus, interstitiis eleganter punctatis; aperturâ oblongâ, antice dilatatâ, columellâ rectâ.*

This is a most exquisite species, both in form and sculpture; the whorls are rounded and punctate-striate, and the shell is nearly pellucid; it is from Bolinao, 10 fathoms water. Mus. Cuming.

6. **Monoptygma casta**, A. Adams. *M. testâ ovato-turritâ, albâ, tenui, semipellucidâ, anfractibus convexiusculis, transversim sulcatis, sulcis subconfertis, interstitiis pulcherrimè striatis; aperturâ oblongâ, antice productâ, columellâ obliquâ, subtortuosâ.*

This pure white ovate form is from the China Seas, being collected by the writer during the Voyage of H.M.S. Samarang. The whorls are grooved, with the interstices striated. Mus. Cuming.

7. **Monoptygma speciosa**, A. Adams. *M. testâ turritâ, subulatâ, albidâ, tenui, semipellucidâ, anfractibus octo, convexiusculis, suturâ profundâ, cingillis transversis elevatis, interstitiis concinnè cancellatis, ornatâ; aperturâ oblongo-ovali, columellâ subrectâ, supernè plicâ obliquâ subobsoletâ instructâ.*

Hab. Baclayon; Philippines. Mus. Cuming.

An elegant semipellucid species, resembling an elongated *Actæon*, with the whorls encircled with elevated cingilli, and the interstices cancellated.

8. **Monoptygma spirata**, A. Adams. *M. testâ turritâ, albâ, epidermide fusco tectâ, anfractibus octo, planiusculis, gradatis, suturâ canaliculatâ, plicis longitudinalibus, angustis, confertis, et sulcis transversis decussatim ornatâ; aperturâ oblongâ, labio plicâ unicâ obliquâ instructo.*

Hab. Camaguin; Philippines. Mus. Cuming.

A small turreted species, covered, in the living state, with a light brown epidermis, and with the surface regularly and beautifully decussated with raised lines.

9. **Monoptygma tenella**, A. Adams. *M. testâ ovato-turritâ, albâ, subpellucidâ, anfractibus quatuor, convexiusculis, transversim tenuiter striatâ; aperturâ ovali, labio subreflexo, plicâ obsoletâ instructo; labro dilatato, margine flexuoso incrassato et subreflexo.*

Hab. Philippine Islands. Mus. Cuming.

A small *Rissoa*-like shell, with only a faint indication of a plait on the columellar lip; the aperture dilated, and the outer lip expanded and slightly thickened anteriorly.

10. **Monoptygma stylina**, A. Adams. *M. testâ subulatâ, in medio incrassato, albâ, subpellucidâ, anfractibus* 9–12, *planiusculis, transversim tenuiter sulcatâ, longitudinaliter substriatâ; aperturâ oblongâ, labio superne plicâ obliquâ instructo; labro, in medio, subrecto.*

Hab. Catanuan; Philippines. Mus. Cuming.

A remarkable white subulate shell, with the middle whorls, especially those near the apex, enlarged.

11. **Monoptygma suturalis**, A. Adams. *M. testâ subulato-turritâ, subumbilicatâ, albâ, nitidâ, subdiaphanâ, anfractibus septem planis, suturâ canaliculatâ, transversim sulcatâ, anfractu ultimo subsoluto, fasciis angustis, albo articulatis, ornato; aperturâ oblongo-ovali, labio plicâ evanidâ instructo.*

Hab. Philippine Islands. Mus. Cuming.

A small white species, with the last whorl nearly free, and having the suture deeply channeled.

6. DESCRIPTIONS OF NEW SHELLS, FROM THE CUMINGIAN COLLECTION; WITH A NOTE ON THE GENUS NEMATURA.

BY ARTHUR ADAMS, R.N., F.L.S. ETC.

Pyramidella metula, A. Adams. *P. testâ subulatâ, turritâ, apice obtusiusculo, albidâ anfractibus decem planulatis, longitudinaliter costatâ, costis confertis æquantibus, interstitiis lineis transversis elevatis ornatâ; aperturâ ovali, labio incrassato, in medio plicâ unicâ instructo; labro margine subincrassato.*

Hab. Mizamis, Cagayan. Mus. Cuming.

A small elongated species, somewhat resesembling a *Rissoina*, with the intervals between the ribs finely cancellated, and the whorls very numerous.

Pyramidella aclis, A. Adams. *P. testâ subulatâ albâ nitidâ, anfractibus octo planiusculis longitudinaliter plicatâ, plicis æqualibus subconfertis, interstitiis lævibus; aperturâ semiovatâ, labio subincrassato plicâ unicâ munito; labro subdilatato.*

Hab. Philippines. Mus. Cuming.

This is a slender subulate species, likewise resembling in appearance a *Rissoina*.

Lacuna carinifera, A. Adams. *L. testá ovatá, spirá acuminatá, anfractibus quatuor, latè umbilicatá, fulvá, anfractu ultimo angulato, cariná transversá elevatá, rufo-fusco articulatá, ornato; aperturá semiovatá; labro acuto, angulato, labio recto, fissurá umbilicali elongatá.*

Hab. Borneo. Mus. Cuming.

The single prominent keel round the periphery of the last whorl is the principal feature of this species.

Velutina Sitkensis, A. Adams. *V. testá nigro-fuscá, epidermide liris elevatis transversis confertis obtectá, longitudinaliter valdè sulcatá, sulcis subdistantibus; aperturá ovali, intus sulcatá; labro margine reflexo, nigro, incrassato; postice nonproducto supra anfractum ultimum.*

Hab. Sitka. Mus. Cuming.

The dark brown colour and oval form distinguish this species from *V. lævigata*, which also has the outer lip arched and expanded posteriorly.

Otina fusca, A. Adams. *O. testá magná, solidá, semiopacá, fuscá, sine epidermide, dorso convexá, longitudinaliter subplicatá, transversim tenuiter striatá, labio lato, plano, et excavato; labro recto, non reflexo aut expanso.*

Hab. Benguela. Mus. Cuming.

The large size of this species, and its convex form, distinguish it from *O. otis*, and its absence of bands, and the outer lip not being expanded, from *O. zonata*, Gould, the only two species at present known to me.

7. NOTE ON NEMATURA, BY A. ADAMS.

The genus *Nematura*, established by Mr. Benson, appears to have the closest affinity with *Bithynia* of Leach, but the horny operculum, with grooved margins, and the contraction of the aperture, will distinguish them. There appear to have been found at present but six species, three of them known, and three here indicated for the first time; in the rivers and streams of the East are doubtless many more; they are usually found adhering to the under surface of dead floating leaves.

1. **Nematura Deltæ**, Benson. *N. testá magná, pallidè fulvá, globosá, lævi; aperturá orbiculari, peritremate simplici.*
Mus. Cuming.

2. **Nematura minima**, Benson. *N. testá parvá, corneá, semipellucidá, ovali, spirá subproductá; politá, fasciis rufis subobsoletis ornatá; aperturá orbiculari, peritremate simplici.*
Mus. Cuming.

3. **Nematura polita**, Sowerby. *N. testâ magnâ, castaneo-fuscâ, compressâ, subvaricosâ; aperturâ ovali, peritremate anticè striato; regione umbilicali lirâ callosâ circumdato; punctato-striatâ.*
Mus. Cuming.

4. **Nematura olivacea**, A. Adams. *N. testâ ovatâ, opacâ, olivaceâ, viridi-fusco reticulatâ; aperturâ ovali, spirâ elevatâ, apice decollato, peritremate simplici.*
Mus. Cuming.

5. **Nematura glabrata**, A. Adams. *N. testâ magnâ, ovatâ, non compressâ aut varicosâ, subviridi-corneâ; spirâ acutâ, apice acuminato, lævi, politâ; aperturâ orbiculari, angustatâ, peritremate nigro.*
Hab. Penang. Mus. Cuming.

6. **Nematura puncticulata**, A. Adams. *N. testâ mediocri, pallidè fulvâ, compressâ, anfractu ultimo gibboso, et subangulato ad latera, lineolis punctatis transversis ornatâ, peritremate simplici.*
Hab. Eastern Islands. Mus. Cuming.

8. A MONOGRAPH OF THE RECENT SPECIES OF RIMULA, A GENUS OF MOLLUSCA, BELONGING TO THE FAMILY FISSURELLIDÆ.

BY ARTHUR ADAMS, R.N., F.L.S. ETC.

The genus *Rimula* of Defrance has been usually confounded with *Puncturella* of Lowe, or the *Cemoria* of Leach, but it is at once distinguished by the absence of the arcuated plate in the interior of the vertex. The species already known are fossil, to which we now add a few recent examples.

Genus RIMULA, Defrance.

Shell conical, with an elevated, recurved, entire vertex, turned towards the posterior end; surface cancellated, with radiating ribs; a linear perforation in the upper part of the shell, half-way between the vertex and anterior margin; margin of aperture crenulated; interior simple, with no shelly plate; muscular impression crescentic, interrupted in front.

1. **Rimula exquisita**, A. Adams. *R. testâ magnâ, ovali, semipellucidâ, albâ, costis longitudinalibus, radiantibus, lineisque elevatis, transversis, concentricis, cancellatâ; cancelli subquadrati; costis crenulatis, inæqualibus, prominentibus, anterioribus duabus divergentibus, interstitiis costellis duabus instructis; supra perforationem concavâ; perforatione elongatâ subquadratâ.*

Hab. Catanuan, island of Luzon and island of Burias, found on dead shells, 7 and 10 fathoms, sandy mud (*H. C.*). Mus. Cuming.

2. **Rimula Cumingii**, A. Adams. *R. testâ parvâ, ovatâ, opacâ, costellis longitudinalibus, radiantibus, lineisque transversis, crassis, concentricis, cancellatâ: cancelli transversi, elongati; costis nodulosis, subæqualibus, prominentibus, distantibus, anterioribus duabus antice divergentibus, interstitiis costellis duabus instructis, perforatione elongatâ, subquadratâ.*

Hab. Eastern Seas. Mus. Cuming.

3. **Rimula carinata**, A. Adams. *R. testâ parvâ, ovali, costellis simplicibus, permultis, confertis, longitudinalibus, radiantibus, ornatâ; interstitiis cancellatis; cancelli punctiformes; costellis duabus anterioribus, antice convergentibus, et apud aperturæ marginem junctis; interstitiis, supra perforationem, convexis, supra verticem extendentibus, quasi carinâ; perforatione ovali, angustâ, antice angustatâ.*

Hab. Cagayan, province of Misamis, island of Mindanao, on dead shells, 25 fathoms, sandy mud (*H. C.*). Mus. Cuming.

4. **Rimula propinqua**, A. Adams. *R. testâ parvâ, elongato-ovali; costellis prominentibus, asperis, longitudinalibus, radiantibus, subdistantibus; interstitiis valde cancellatis; cancelli transversi, subquadrati; costellis duabus anterioribus, antice convergentibus, ad aperturæ marginem junctis; perforatione angustato-ovali, antice acuminatâ.*

Hab. Catapan, Philippines. Mus. Cuming.

9. A MONOGRAPH OF PUNCTURELLA, A GENUS OF GASTEROPODOUS MOLLUSCA, BELONGING TO THE FAMILY FISSURELLIDÆ.

BY ARTHUR ADAMS, R.N., F.L.S. ETC.

Genus PUNCTURELLA, Lowe.

Head proboscidiform, tentacles subulate, with the eyes on swellings at their outer base; sides with a range of cirrhi, interrupted behind on each side; mantle-margin simple; branchial plumes two; anal siphon prominent, forming a truncated membranous canal projecting from the subapical perforation.

Shell conical, with an elevated, slightly recurved, obliquely spiral entire vertex, turned towards the posterior end; aperture expanded, oval; surface with radiating ribs; margin entire; a linear perforation in the upper part of the shell, between the vertex and front margin, in the line of an elevated rib. Interior with a linear groove, vaulted over with a shelly plate corresponding to the perforation; muscular impression crescentic, interrupted in front.

Cemoria, Leach, MSS.—*Sipho*, Brown.—*Rimula*, Lovèn; Gould; Couthouy.—? *Diadora*, Gray.

1. **Puncturella Noachina**, Linnæus.

Patella noachina, Linn. Mantissa, p. 551; Chemn. Conch. Cab. vol. xi. p. 186. pl. 197. f. 1927, 1928.—*Patella fissurella*, Müller.—

Fissurella Noachina, Schum.—*Puncturella Noachina*, Lowe.—*Cemoria Flemingii*, Leach, MSS.—*Cemoria Noachina*, Lowe.—*Rimula Flemingii*, Macgill.—*Rimula Noachina*, Couthouy.—*Sipho Noachina*, Brown.

Hab. British Islands. Mus. Cuming.

2. PUNCTURELLA CUCULLATA, Gould.

Rimula cucullata, Gould, Expedition, Shells, p. 14.
Hab. Puget Sound.

3. PUNCTURELLA GALEATA, Gould.

Rimula galeata, Gould, Expedition, Shells, p. 14.
Hab. Puget Sound. Mus. Cuming.

4. PUNCTURELLA COGNATA, Gould.

Rimula cognata, Gould, Expedition, Shells, p. 14.
Hab. Orange Harbour.

5. PUNCTURELLA CONICA, D'Orb. Voy. Am. Mer.

6. PUNCTURELLA FASTIGIATA, A. Adams. *P. testâ albidâ elevato-conicâ, nitidâ, vertice acuminato involuto, costellis longitudinalibus æqualibus æquidistantibus, interstitiis planis lineis incrementi concentricis; fissurâ lanceolatâ; aperturâ ovali, margine crenulato, fornice costâ, costâ valde arcuatâ, transversali, simplici.*
Hab. Eastern Seas. Mus. Cuming.

7. PUNCTURELLA PRINCEPS, Mighels and Adams.

Cemoria princeps, Mighels and Adams, Bost. Journ. Nat. Hist. vol. iv. p. 43.

10. ON SOME GENERA OF SHELLS, ESTABLISHED IN 1807 BY THE LATE H. F. LINK. BY DR. HERRMANNSEN, OF KIEL.

In several programs, hitherto not at all taken notice of by any Conchologist, the renowned Botanist Link of Berlin, then Professor of Natural History, Chemistry and Botany at Rostock, in the course of the years 1806 to 1808, has published an account of the Collections of the Rostock University. These little treatises seem to be very rare, nor do I remember ever to have found them mentioned, before my 'Index Generum Malacozoorum' recorded them. Yet they may claim priority in many instances, which I hope will be redeemed by simply noticing their contents. The German titles of these octavo pamphlets are as follows:—

Beschreibung der Naturalien-Sammlung der Universität zu Rostock, von Dr. H. F. Link. Rostock. Gedruckt bei Adlers Erben.

Erste Abtheilung; zum Weihnachtsfest, d. 25 Dec. 1806 (p. 1–48).
Zweite Abth.; zum Osterfest, d. 29 Marz 1807 (p. 49–98).
Dritte Abth.; zum Pfingstfest, d. 17 Mai 1807 (p. 99–165).
Vierte Abth.; zum Weihnachtsfest, d. 25 Dec. 1807 (p. 1–30).
Fünfte Abth.; zum Osterfest, d. 7 April 1808 (p. 1–38).
Sechste Abth.; zum Pfingstfest, d. 5 Juni 1808 (p. 1–38).

Passing over those genera which are either superfluous because formerly rightly published under other names, or unhappily contrived, I will hint at those that may deserve to be attended to.

MOLLUSCA. GASTEROPODA. SIPHONOBRANCHEA.

LAMBIDIUM, Link, 1807, *l. c.* iii. p. 112.

Spire little prominent; aperture longitudinal, narrow; inner lip callous, with raised points; outer lip marginated; base truncated; shell destitute of varices or spines.

Lambidium oniscus (*Strombus*), Linn.

This genus having been indicated in 1798, by Dr. Bolten, as *Morum*, but without definition, the botanical signification of that name may have induced Link to select another, which, being correctly founded, must be preferred to *Oniscia* of Mr. Sowerby; or at least, if we should dissect the genus with Dr. Gray, into *Oniscia*, *Sconsia*, and *Morum*, to the last.

PHALIUM, Link, 1807, *l. c.* iii. p. 112.

Spire shorter than the last whorl; aperture longitudinal, wide; inner lip callous and smooth, or extended into a folded or granulated lamina; outer lip marginated; shell often varicose; base strongly recurved, notched; inner columella not folded.

A. Lamina of the inner lip folded: *Phalium glaucum* (*Buccinum*), Linn. &c.—B. Lamina of the inner lip granulated: *Phalium erinaceum* (*Bucc.*), Linn. &c.

This is *Bezoardica*, Schum., or *Cassidea*, Swains.

CASSIDEA, Link, 1807, *l. c.* iii. p. 111.

Spire little prominent; aperture longitudinal, narrow; outer lip marginated, like the inner one, with many folds; shell spineless, often varicose; base strongly reflected, notched; inner columella folded.

Cassidea rufa, tuberosa, cornuta, testiculus, flammea, pennata.

This has been proposed by Mr. Stutchbury as *Cypræcassis*, but must at all events retain the name of *Cassis*, Browne, 1756.

GALEODEA, Link, 1807, *l. c.* iii. p. 113.

Spire much shorter than the last tumid whorl; inner lip extended in shape of a smooth lamina; outer one slightly marginated; base rather elongated, reflected, not emarginate.

Galeodea echinophora (*Bucc.*), Linn.

Synonyms are *Morio*, Montf., and *Cassidaria*, Lamck., both of a more recent date.

Thais, Link, 1807, *l. c.* iii. p. 114.

[*Thais* of Bolten Mus. includes some *Ricinulæ* and *Monoceros* of Lamarck, from which Link has depurated it.]

Spire shorter than the last, ventricose whorl; aperture semicircular; inner lip plane, obliquely cut off, callous, smooth; outer lip scarcely marginated; shell without varices; base short.

Thais Persica (*Bucc.*), Linn.—*patula*, Linn. sp.—*hæmastoma* (Chemn. fig. 964, 965).—*fucus*, Gmel. sp.—*minuta*, Link.

This genus, which is synonymous with *Microtoma*, Swainson, I should think advisable to be retained at least as a section of the hitherto confused genus *Purpura*.

Mancinella, Link, 1807, *l. c.* iii. p. 115.

Spire much shorter than the last whorl; aperture longitudinal, rounded; inner lip smooth and callous, outer one little or not at all marginated; shell without varices, but provided with spines and imbricate scales; base short, or scarcely elongated, twisted outwards, slightly notched.

Mancinella aculeata (Chemn. 967, 968).—*hystrix*, Linn. sp.—*castanea*, Link (Chemn. 956–958).—*armigera*, Chemn. sp.—*mutabilis*, Chemn. 951–953.—*Bezoar*, Chemn. 754, 755.

This genus, combining some *Purpuræ* with some *Pyrulæ* of Lamarck, comes near to *Rapana a*, Schum., and perhaps may be adopted.

Volema, Link, 1807, *l. c.* iii. p. 115. (*Volema*, Bolt. emend.)

Spire much shorter than the last whorl, often distorted; aperture oblong, rounded; inner lip smooth and callous, outer lip simple; shell without varices; if grown old, with spines or imbricated scales; base elongated, rather turned aside.

The species are to be found in my 'Ind. Gen. Malacoz.' vol. ii. p. 699.

This genus unites *Busycum*, Bolt. (=*Fulgur*, Montf.) with *Cassidulus*, Humphr., Gray.

Xancus, Bolten, 1798, Mus. (edit. 1819, p. 94); Link, 1807, *l. c.* iii. p. 116.

Spire shorter than the last whorl; aperture above rounded, wide, below narrow; inner lip callous, with three folds; outer lip simple; shell heavy, without varices or spines; base elongated.

Xancus pyrum, Linn. sp., and *maculatus*, Link (Chemn. f. 917, 918).

This genus, by Humphrey called *Rapum*, by Fabricius *Pyrum*, by Dr. Gray *Turbinellus*, and by M. Deshayes *Scolymus*, is here characterized for the first time, and sufficiently.

Cymatium, Link, 1807, *l. c.* iii. p. 119.

Spire rather long; aperture above rounded; inner lip callous, with three folds; outer one marginated; a great number of crowded and ridged varices run down the shell, to which they are firmly grown; base little elongated.

Cymatium polygonum, &c.

This is quite identical with *Latirus*, Montf., or *Polygona*, Schum.

Vasum, Link, 1807, *l. c.* iii. p. 119. (*Vasum*, Bolt. emend.)

Spire rather long; aperture longitudinal; inner lip callous, with alternately larger folds; outer lip simple; shell without distinct varices; base elongated.

Vasum Ceramicum, Linn. sp., &c.

This is *Cynodonta*, Schum., *Scolymus*, Sw.

Tudicla, Link, 1807, *l. c.* iii. p. 120. (*Tudicla*, Bolt. emend.)

Spire very short, depressed; aperture above semicircular; inner lip callous, with a single fold; outer one simple; no varices or spines; canal straight, thin.

Tudicla spirillus, Linn. sp.

Subsequently established as *Haustellum a*, Schum., *Pyrella*, Swains., *Spirillus*, Schlut., *Spirilla*, Sow. jun.

Tritonium, Link, 1807, *l. c.* iii. p. 121.

Spire rather long; aperture above rounded; inner lip callous, generally with small folds; outer lip marginated; shell with varices that are commonly discontinuous; base rather elongated.

With respect to this genus I may refer to my 'Ind. Gen. Malacoz.' vol. ii. p. 609.

Distortrix, Link, 1807, *l. c.* iii. p. 122.

Spire rather long; whorls distorted; inner lip callous, folded; outer lip marginated; varices indistinct; base short-tailed.

Distortrix anus, Linn. sp., and *reticulata* (Chemn. f. 405, 406).

This name then is to be substituted in the place of *Persona*, Montf.

Gyrineum, Link, 1807, *l. c.* iii. p. 123.

Spire nearly equal to the last whorl; aperture rounded; inner lip callous, often slightly folded or granulated; outer lip marginated; shell compressed, with two opposite varices; base short or a little elongated.

Gyrineum echinatum (Chemn. f. 1274, 1275), *rana* (f. 1269, 1270), *bufonium* (f. 1240, 1241), *natator* (f. 1229, 1230), *verrucosum* (f. 1233, 1234), *caudatum* (f. 1045–1047), *scrobiculator*, = *Ranella*, Lamck.

Canrena, Link, 1807, *l. c.* iii. p. 126.

Spire short; aperture longitudinal; inner lip folded; outer lip interiorly strongly dentated; shell crowded with spines, but without distinct varices; base short.

Canrena neritoidea (Mart. f. 972, 973, 976–979) = *Ricinula*, Lamck. &c.

ADELOBRANCHEA.

Astralium, Link, 1807, *l. c.* iii. p. 135.

Spire depressed; aperture broad, rounded, bending downwards.

Astralium deplanatum (Chemn. f. 1718–1720).—*Astralium calcar*, Gm., sp.

This genus will no doubt be acknowledged, being congruous with *Calcar*, Montf., Phil. It had been indicated before by G. Humphrey, under the name of *Sol*, and by Bolten as *Astræa*. But I think it should be extended farther, so as to receive *Imperator* and *Hercoles*, Montf., *Stellaria*, Schmidt, *Cyclocantha*, *Canthorbis*, subg., and *Tubicanthus*, Swains., *Bolma*, Risso, *Cookia*, Less., and *Astralium*, Phil.

Umbonium, Link, 1807, *l. c.* iii. p. 136.

Spire much depressed; aperture directed downwards, or to the side, simple; base showing a convex callus in the place of the umbilicus.

Umbonium vestiarium, Linn. sp., and *excisum* (Chemn. f. 1602).

That Link's name is to be adopted instead of *Globulus*, Schum., or *Rotella*, Lamck., can hardly be controverted; although his second species belongs to another tribe.

Pythia, Bolten, 1798, Mus. (ed. 1819, p. 74); Link, 1807, *l. c.* iii. p. 139.

Whorls, each of them composed of two pieces; aperture longitudinal, toothed on both sides.

Pythia scarabæa, Linn. sp.

This name is preferable to that of Fischer, *Polydonta*, which, although contemporary, is badly made, and wants correction.

ACEPHALA.

Sunetta, Link, 1807, *l. c.* iii. p. 148.

Equivalve, in front rather obtuse, closed; hinge with two cardinal teeth, lateral ones indistinct; anterior slope shorter than the furrow-shaped posterior slope; ligament external.

Sunetta scripta (Chemn. f. 261–265) = *Cuneus*, Muhlf. 1811 = *Meroë*, Schum. 1817.

Tivela, Link, 1807, *l. c.* iii. p. 152.

Equivalve, longitudinal, without epiderm, closed; hinge with two cardinal and one elongated lateral tooth; anterior and posterior slopes equally elongated; ligament external.

Tivela vulgaris (Chemn. f. 362).—*T. tripla* (*Venus*), Linn. = *Trigona*, Muhlf. 1811.

Musculium, Link, 1807, *l. c.* iii. p. 152.

Equivalve, closed; hinge with two small cardinal teeth, no lateral ones; anterior and posterior slope nearly equal.

Musculium lacustre (*Tellina*), Linn.

The genus established here, fourteen years afterwards was published as *Pisidium*.

TENTACULATA. See 'Ind. Gen. Malacoz.' ii. 541.

Verpa, Bolten, 1798, Mus. (ed. 1819, p. 49); Link, 1807, *l. c.* iii. p. 159.

Shell tubular, partly straight, partly winding, at one extremity open, at the other closed by a convex perforated blade.

Verpa penis (*Serpula*), Linn.

The oldest denomination of this genus that can be admitted; *Penicillus* (Da Costa, p.p.), Brug., being a term since the times of Rondelet consecrated to the Annulate class: all the other names, *Aquaria*, *Arytæna*, *Clepsydra*, *Aspergillum*, are of younger date, and will give way to *Verpa*, Bolt., defined by Link.

The following descriptions of new *Naticæ* were communicated by Dr. Philippi:—

11. DESCRIPTIONES NATICARUM QUARUNDAM NOVARUM EX COLLECTIONE CUMINGIANA, AUCTORE R. A. PHILIPPI.

1. **NATICA CATENATA**, Phil. *N. testâ subglobosâ, tenui, lividâ, zonis quatuor albis, maculas fuscas semilunatas exhibentibus pictâ; anfractibus rotundatis; spirâ breviusculâ, nigricante; sulcis radiantibus profundis superiorem anfractuum partem occupantibus; aperturâ semiorbiculari, intus purpureâ; umbilico amplo, margine acuto cincto; callo spirali satis valido medium umbilici occupante.*

Alt. $8\frac{1}{2}$, diam. $8\frac{2}{3}$ lin.

Hab. —— ?

Differt a *N. tæniatâ*, Menke, anfractibus superius non horizontalibus sed declivibus, zonis longitudinaliter maculatis, callo labiali et callo umbilicali longe latioribus, etc.; a *N. depressâ* formâ globosâ, umbilico amplo, callo umbilicari mediano, etc.; a *N. maroccanâ* formâ globosâ, umbilico longe ampliore, callo ejus mediano, etc.

2. **NATICA INCEI**, Phil. *N. testâ depressâ, suborbiculari, solidâ, striatulâ, nitidâ, luteo-albidâ; anfractibus superius planatis; spirâ latè conicâ, acutâ; aperturâ semiorbiculari, valdè obliquâ; angulo basali columellæ incrassato; suturâ duplicatâ; callo maximo albo umbilicum magnum omninò implente.*

Alt. ab apice ad basin aperturæ $9\frac{1}{2}$, a dorso ad ventrem 6 lin.; diam. 12 lin.

Hab. ad insulam Raines, in freto Torres, ubi legit *Capt. Ince, R.N.*

Cave ne hanc speciem cum *N. Josephiniâ*, Risso (*N. Ollâ*, M. de Serr.), confundas, cui simillima est, et a quâ unice differt: ambitu paullo magis orbiculari; anfractibus minus rapide crescentibus; angulo umbilicum cingente paullo magis distincto; columellâ basi valde incrassatâ; callo umbilicari albo; colore fere albo in luteum vergente, præsertim versus basin, denique suturâ duplici. Linea superior suturæ a callo labiali, inferior a margine superiore anfractûs formatur, pariter ut in *Bulliis* d. Gray.—Operculum corneum.

3. **NATICA INTEMERATA**, Phil. *N. testâ globoso-ovatâ, solidâ, striatulâ, nitidâ, lacteâ, ad suturam versus umbilicum et in parte ultimâ anfractûs ultimi flavâ; anfractibus superius planiusculis; spirâ conicâ, circa* $\frac{1}{5}$ *altitudinis æquante; aperturâ semiorbiculari; columellâ rectâ, incrassatâ; umbilico magno, pervio, lacteo, sulco profundo lato exarato; funiculo semicylindrico ejus a callo labiali distincto.*

Alt. 18½, diam. 17½ lin.

Hab. in sinu Californiæ; legit *Rever. Steel.*

Simillima videtur *N. porcellaneæ* d'Orb., sed umbilico multo ampliore et colore flavescente differt; a *N. castâ*, Phil., testâ solidiore minus depressâ, umbilico albo angustiore, funiculo umbilicali longe magis elevato, etc. distinguitur; a *N. pede elephantis* testâ haud depressâ, funiculo umbilicali minus elevato satis superque discrepat.

4. **Natica caribæa**, Phil. *N. testâ ovatâ, sordidè albâ, ad suturam zonâ lacteâ munitâ; anfractibus superius vix convexis; spirâ brevi, acutâ; aperturâ semiorbiculari; umbilico parvo; callo lato cum labio confluente illum maximâ ex parte opplente.*

Alt. 8, diam. 7 lin.

Hab. in mari Caribæo ad insulam St. John.

Forma omnino accedit ad *N. mammillam* vel *N. lacteam* et umbilico pervio cum *N. lacteâ* convenit. Differt tamen umbilico longe angustiore, et callo ejus longe majore; an nihilominus mera varietas? *N. uberinâ*, d'Orb., testâ longe angustiore magis differre videtur.—Operculum tenue, corneum.

5. **Natica vestalis**, Phil. *N. testâ ovato-oblongâ, acutâ, lacteâ, substriatâ, nitidissimâ; spirâ acutâ, conicâ, sextam vel septimam totius altitudinis partem occupante; aperturâ semiorbiculari; callo convexo, crassissimo, cum callo labiali confluente, et sulco longitudinali ante marginem columellarem instructo, umbilicum fere omnino claudente.*

Long. 16½, diam. 16 lin.

Hab. ad oram Mozambique dictam; legit *Rev. Steel.*

Forte nihil nisi varietas *N. mammillæ*, a qua unice differt callo umbilicali crassiore convexiore, sulco longitudinali ante medium marginis columellaris, parte liberâ umbilicum cingente.

Obs.—Quæstio valde difficilis, utrum sub *N. mammillâ*, L. plures species lateant, an meræ varietates, vix examine singulorum specíminum in Musæis asservatorum decidi poterit, sed unice investigatione numerosæ gregis in ipso loco natali.

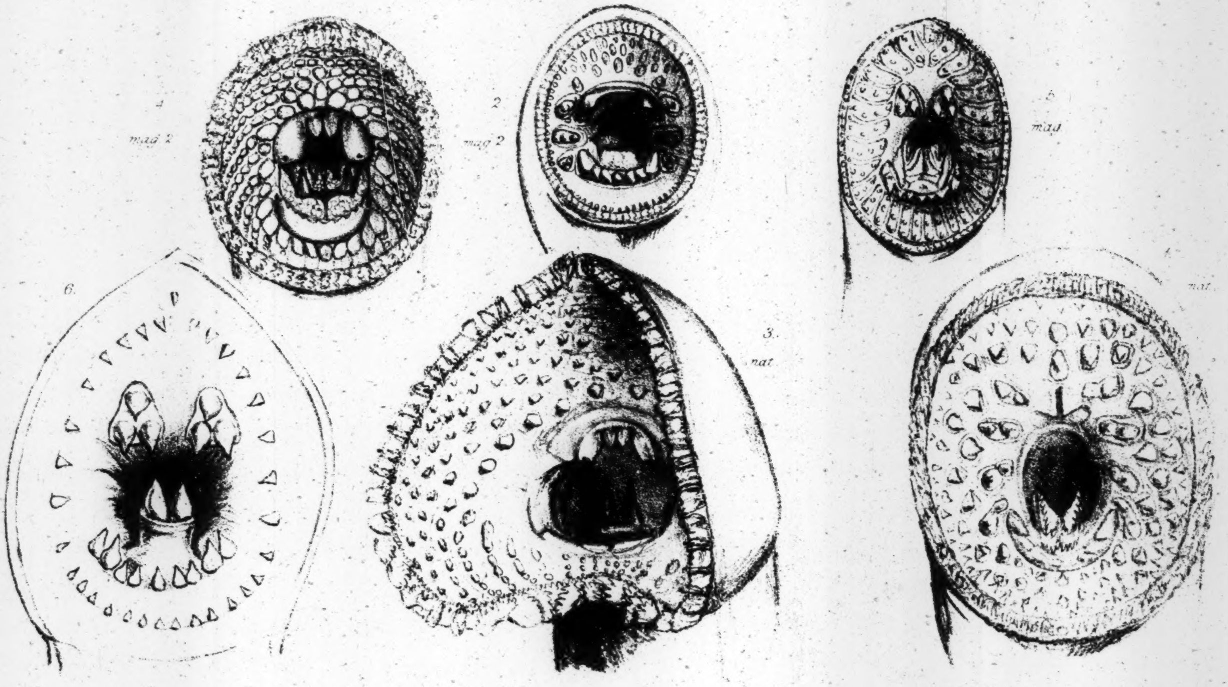
6. **Natica? pomum**, Phil. *N.? testâ ovatâ, inflatâ, tenuiusculâ, striatâ, glauco-fulvâ, basi albâ; anfractibus convexis, superioribus supernè subangulatis; spirâ quartam altitudinis partem æquante, subcontabulatâ; aperturâ ovato-oblongâ, propter anfractum penultimum prominentem fere lunatâ; umbilico angustissimo, perforato; labio parum calloso, basi supra umbilicum reflexo.*

Alt. 19, diam. 18½ lin.

Hab. ——?

Hæc species a reliquis Naticis valde aliena et forte ad genus *Amphibolam*, Schum. (*Ampullacera*, Quoy et Gaimard) mandanda est, etenim sinus latus satis profundus in parte supremâ labri hujus testæ in nullâ aliâ specie generis Naticæ observatur.

[illegible]



W. Wing, del et lith. Ford & West, Lithographers 54 Hatton Garden

1. PETROMYZON MARINUS. 2. LAMPETRA FLUVIATILIS. 3. GEOTRIA AUSTRALIS.
4. VELASIA CHILENSIS. 5. CARAGOLA LAPICIDA. 6. MORDACIA MORDAX.

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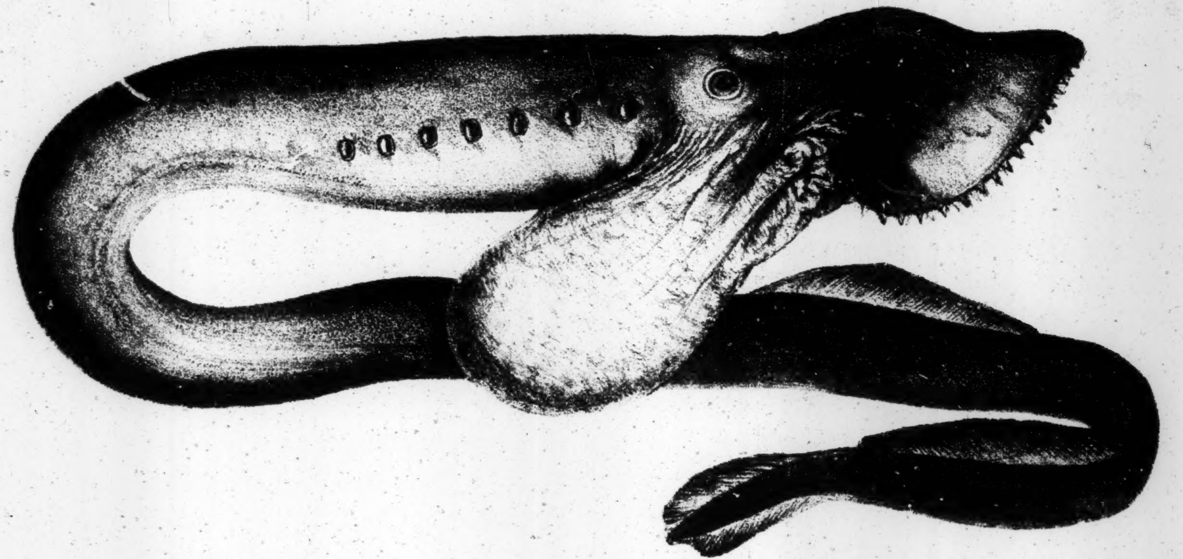
Proc. Z. S. Pisces V.



W. Wing del. et lith.

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GEOTRIA AUSTRALIS, (GRAY).

12. DESCRIPTION OF A NEW FORM OF LAMPREY FROM AUSTRALIA, WITH A SYNOPSIS OF THE FAMILY.

By J. E. GRAY, Esq., F.R.S., V.P.Z.S. etc.

(Pisces, Pl. IV. V.)

The Lamprey which I have now to present to the attention of the Society differs in so remarkable a degree from any other known species, that, premising that I propose for it the name of *Geotria Australis* (Pisces, Pl. V.), I think it best to connect with the description a revision of the whole Family to which it belongs.

PETROMYZONIDÆ.

Nasal aperture closed, and the palate entirely covered with skin.

Lampredia, Rafin. Anal. Nat. 94, 1818.—*Petromyzonidæ* (*Petromyzonini*), Bonap. Syst. Ichth. 1838; De Kay, Nat. Hist. of New York, 379.—(*Fam.*) *Hyperoartia*, Müll. Abhandl. Akad. Berlin, 1836, 77; Mag. Zool. & Bot. i. 406.—*Petromyzidæ*, Gray, Syn. B.M. 1842, 148, 150.

Müller (*Abhandl. Akad. Berlin*) divided the genera thus:—

1. *Petromyzon*, with visible teeth.
2. *Ammocœtes*, without visible teeth.

Synopsis of Genera.

A. Petromyzonina. *Teeth distinct; eyes visible.*

1. PETROMYZON. Upper inner teeth two, conical, close together; lower single, crescent-shaped; labial teeth numerous, conical; lingual teeth two, pinnate (Pl. IV. f. 1).

2. LAMPETRA. Upper and lower teeth transverse, crescent-shaped; labial teeth in two submarginal rows; inner lateral teeth larger, two- or three-lobed, lingual teeth pectinate (Pl. IV. f. 2).

3. GEOTRIA. Upper and lower teeth transverse, crescent-shaped; upper lobed; labial teeth numerous, distant, acute, innermost largest; lingual teeth elongate, conical, arched (Pl. IV. f. 3).

4. VELASIA. Upper and lower teeth transverse, crescent-shaped; upper two-lobed; labial teeth numerous, crowded, truncate; innermost largest; lingual teeth elongate, arched.

5. CARAGOLA. Upper internal teeth two, far apart, three-lobed; lower crescent-shaped, nine-lobed; labial teeth transverse, band-like, four tubercles; lingual teeth flattened (Pl. IV. f. 5).

6. MORDACIA. Upper inner teeth two; lateral three-lobed; lower nine, conical, in an arched series; labial teeth conical, in a single submarginal series; lingual teeth elongate, conical, arched (Pl. IV. f. 6).

B. Ammocœtina. *Teeth none; eyes hidden.*

7. AMMOCŒTES.

A. Petromyzonina. *Teeth distinct.*

1. PETROMYZON. (Pisces, Pl. IV. fig. 1.)

Upper inner teeth two, triangular, close together. Lower inner tooth single, large, crescent-shaped, many-toothed. Labial teeth conical, acute, numerous, in diverging, arched series; the inner one largest, and gradually becoming smaller near the edge. Tongue with two compressed, pectinated teeth above, and a broad, lunate, dentated tooth beneath, which is strongly bent up between the upper teeth in the centre.

Yarr. Brit. Fish. fig. p. 603; De Kay, Zool. New York, t. 56, 216 (bad).—*Petromyzon, sp.*, Linn. Syst. Nat.; Rafin. Anal. Nat.; Müll. Abhandl. Akad. Berlin, 1834, 77 (1836).—*Petromyzon*, Gray, Proc. Zool. Soc. 1851.

1. **Petromyzon marinus.** The **Lamprey**.

Petromyzon marinus, Linn. Bloch, iii. pl. 77; Linn. (édit. de Gmelin) Faun. Suec. 292; Artedi, Ichth. gen. 64. syn. 90; Neue Schrift. der Berl. Naturf. 7. 466; Schneid. Bloch, i. 530, 1801; Penn. Brit. Zool. iii. 102. pl. 10, 1776–78; Shaw, Gen. Zool. v. 251. pt. 2. pl. 133, 1804; Don. Brit. Fish. pl. 81, 1820–21; Flem. Brit. An. 163. sp. 1, 1827; Cuv. Règ. An. ii. 404, 1829; Müll. Mém. de l'Acad. Berlin, 1834, 78. t. 4. f. 1, 5; Osteol. t. 9, 65, 67, 68. f. 9; Yarr. Brit. Fish. 2 ed. ii. 598, 1841.—*Lamproie marbrée*, Daub. Encycl. Méth.; Bonn. Planches d'Hist. Nat. de l'Enc. Méth.—*Petromyzon maculosus*, Artedi, Ichth. gen. 64. syn. 90.—*Petromyzon lamproie*, Bloch, Hist. Nat. Poiss. 31, 77. pt. 13.—*Petromyzon maximus*, Cuv. Règ. An. ii. 118, 1817.—*Petromyzon*, Klein, Misc. Pisc. iii. f. 30. n. 3.—*Mustela sive Lampetra*, Belon, Aquat. 76; Salv. Aquat. f. 62 *b*.—*Lampetra major*, Schwenck. Theriotr. Siles. f. 451; Charlet, Onom. f. 153. n. 3; Aldrov. 539. liv. 4. c. 13; Jonston, liv. 2. tit. 2. c. 3. pl. 24. f. 5.—*Lamproie*, Coms. Hist. Nat. v. 284; Fermin, Surin. 85; Rond. 310. pt. 1. liv. 13; Valmont de Bomare, Dict. Hist. Nat.—*Lampetra Rondeletii, Lamprey or Lamprey-Eel*, Will. Ichth. 105. pl. 2. f. 2, 1685; Ray, Syn. f. 35. n. 3.—*Ioatzma unagi*, Kæmpfer, Voy. au Japan, i. pl. 12. f. 2. —*Il mustilla*, Forsk. Desc. Anim. f. 18.—*Ploca fluta*, Authors.—*Lampetra, Lampreda kentmanni, lampreda, marina, mustela*, Gesn. (germ.) 180 *b*. et paralip. 22.—*Le Pétromyzon Lamproie*, Lacépède, Hist. Nat. Poiss. i. 2, 3. pl. 1, 1798.—*La Grande Lamproye*, Cuv. Règ. An. ii. 404, 1819.

Hab. European Seas.

2. **Petromyzon Juræ.** **MacCulloch's Lamprey.**

Petromyzon Juræ, MacCull. West. Isles, ii. 186, 187. t. 29. f. 1; Jen. B.V.A. 522.—*Petromyzon fluviatilis, var.*, Flem. Brit. An. 162.

Hab. Coast of Scotland, east shore; island of Jura.

Probably a variety of *P. marinus*: the drawing of the teeth shows it has no relation to *P. fluviatilis*.

3. ?Petromyzon americanus. American Sea Lamprey.

Petromyzon marinus, Schæpff. Beobachtungen, &c. viii. 184; Mitch. Trans. Lit. & Phil. Soc. i. 461.—*Petromyzon americanus*, Lesueur, Amer. Phil. Soc. (N. S.) i. 382; Hist. N. A. Fish. ined. plate; Storer, Rep. on the Fishes of Massachusetts; De Kay, Nat. Hist. of New York, 379. pl. 66. f. 216. pt. 1; Zool. 1842.
Hab. N. America.

4. Petromyzon nigricans. Bluish Sea Lamprey.

Petromyzon nigricans, Lesueur, Amer. Phil. Soc. (N. S.) i. 385; Storer, Rep. on the Fishes of Massachusetts; De Kay, Nat. Hist. of New York, 381. pl. 79. f. 247 (teeth indistinct), pt. 1; Zool. 1842.
Hab. N. America.

5. Petromyzon argenteus. Silvery Lamprey.

Petromyzon argenteus, Kirtland, Boston Journ. iii. 342. pl. 4. f. 3; De Kay, Nat. Hist. of New York, 382. pt. 1; Zool. 1842.
Hab. N. America, river Ohio.

2. LAMPETRA. (Pisces, Pl. IV. fig. 2.)

Upper inner tooth single, transverse, lunate, entire, with a conical prominence at each end. Lower inner tooth single, transverse, lunate, many-toothed, outer lobe largest. Labial teeth unequal, the outer numerous, small, subequal, conical, in a single, submarginal series, the inner larger, unequal; of the upper part small, in series; of the sides in a single series, larger, with two or three conical tubercles. Tongue with two compressed, pectinated teeth above, and a large, crescent-shaped, transverse tooth below, crenated on the edge, and with a larger, conical projection in the centre.

Yarr. Brit. Fish. fig. p. 604; De Kay, Nat. Hist. of New York, t. 79, 249 (bad).—*Petromyzon, sp.*, Linn., Cuv., Müll.—*Lampetra, sp.*, Ray.—*Lampetra*, Gray, Proc. Zool. Soc. 1851.

* *Dorsal fins separate.*

1. Lampetra fluviatilis. Lampern or River Lamprey.

Petromyzon fluviatilis, Linn. Bloch, pt. 3. pl. 78. f. 1; Linn. (edit. de Gmel.); Müll. Prod. 37. n. 307; Aldrov. 587; Penn. Brit. Zool. v. pt. 106. pl. 10, 1776–78; Schneid. Bloch, 530, 2, 1801; Shaw, Gen. Zool. 257. pt. 2, 1804; Don. Brit. Fish. pl. 80, 1820–28; Flem. Brit. An. 404, 1827; Cuv. Règ. An. ii. 404, 1829; Mém. de l'Acad. Berlin, 78, 1834; Jen. Man. Brit. Vert. 521. sp. 210, 1835; Yarr. Brit. Fish. 2 ed. ii. 598, 1841; Parnell; Rich. Faun. Bor. 294, 1836. —*Petromyzon fluviatilis*, Cuv. Règ. An. ii. 118, 1817.—*Lamproie prycka*, Daub. Encycl. Méth.—*Nein-oga natting*, Faun. Suec. 106. —*Petromyzon, &c.*, Artedi, gen. 64. syn. 89. sp. 99.—*La petite Lamproie*, Bloch, 34. pt. 3. pl. 78. f. 1.—*La Lamproie branchiale*, Bonn. Planches de l'Encycl. Méth.—*Petromyzon, Prick* (*negen-oog*), Gronov. Mus. i. 64. n. 114; Zooph. 38.—*Mustela*, Pliny, liv. 9. c. 17. —*Mustela fluviatilis*, Belon, Aquat. 75.—*Lampetra subcinerea, maculis carens*, Salv. Aquat. 62.—*Lampetra, alterum genus*, Gesn. Aquat. 597.—*Lampreda*, Icon. Anim. 326.—*Lampetra, medium genus*, Will. Ichth. 106. tab. g. 2, 3. f. 1, 2; Ray, Syn. Pisc. 25. n. 1. —*Lampetra fluviatilis*, Aldrov. 587; Jonston, 104. pl. 28. f. 11; Schone, 41; Charlet, 159. n. 7; Marseli, Dan. Pann. iv. 2. t. 1, 1726. —*Lampetra fluviatilis, media*, Schwenck. Theriotr. Siles. 532.—*Jaatz me unagi*, Kæmpfer, Voy. dans le Japan, i. 156. pl. 12. f. 2.—*Minog*, Rzæzynski, 134.—*Lamproie*, Fermin, Hist. Nat. de Surinam, 85.—*Petromyzon*, Kramer, Elenchus, 38. n. 1; Klein, Misc. Pisc. iii. 29. n. 1. t. 1. f. 3.—*Le Petromyzon pricka*, Lacépède, Hist. Nat. des Poiss. i. 18, 1798.

Hab. Europe.

2. LAMPETRA PLANERI. FRINGED-LIPPED LAMPERN.

Petromyzon planeri, Linn. Bloch, viii. pl. 78. f. 3; Linn. (édit. de Gmelin); Schneid. Bloch, 531, 532, 4, 1801; Shaw, Gen. Zool. v. pt. 2. p. 259, 1804; Jen. Man. Brit. Vert. 522. sp. 211, 1835; Müll. Mém. de l'Acad. Berlin, 78, 1834; Cuv. Règ. An. ii. 404, 1829; Yarr. Brit. Fish. 2 ed. ii. 607, 1841.—*Lamproiea planer*, Bonn. Planches de l'Encycl. Méth.—*Le Pétromyzon planer*, Lacépède, Hist. Nat. des Poiss. i. 30. pl. 3, 1798.

Hab. Europe.

** *Dorsal fin in contact with the second.*

3. LAMPETRA SANGUISUGA. LEECH LAMPERN.

Petromyzon Sanguisuga, Lacépède, Hist. Nat. des Poiss. ii. 99. pl. 1; Supp. to Petromyzon; Shaw, Gen. Zool. v. pt. 2. p. 261, 1804. —*Petromyzon planeri, var.*, Cuv. Règ. An. ii. 118.

Hab. Europe, Seine.

A very doubtful species; Cuvier says it is the same as the former.

4. LAMPETRA LAMOTTENII. AMERICAN LAMPERN.

Petromyzon Lamottenii, Lesueur, Hist. N. A.; De Kay, Nat. Hist. of New York, 382. pl. 79. f. 249 (mouth), pt. 1; Zool. 1842.

Hab. N. America, New York.

3. GEOTRIA, n. g. (Pisces, Pl. IV. fig. 3.)

Upper internal tooth large, transverse, crescent-like, divided into four lobes; the two inner lobes small, acute; outer truncated. The lower internal tooth transverse, narrow, slightly sinuous. The labial teeth numerous, far apart, conical, acute, in arched series, diverging from the throat; the innermost one larger, rest small; the innermost one of the lower part on each side small, elongate, transverse, with two small, rudimentary tubercles. Tongue with two elongate, conical, arched teeth, with a triangular plate on the lower side of the base. Throat with a very large dilatable pouch. Dorsal fins two, far apart. Mouth very large, surrounded with rather large, transverse, torn leaves.

This genus chiefly differs from *Velasia* in the rudimentary state of the lower internal tooth, in the form of the labial teeth, in the large size of the oral disk, and the extraordinary development of the throat-pouch, which is found in a rudimentary state in the *Petromyzon marinus*. This development of the pouch is perhaps to adapt the animal to the long drought of the Australian rivers.

1. **Geotria australis. Pouched Lamprey.** (Pisces, Pl. V.)
Hab. South Australia. Fresh water.

4. VELASIA. (Pisces, Pl. IV. fig. 4.)

Upper internal teeth large, transverse, crescent-like, divided into four flat, elongated lobes; the outer lobes largest. The lower internal teeth large, transverse, crescent-like, convex, denticulated on the edge. The labial teeth very numerous, truncated, in crowded, arched series, diverging from the throat; the inner ones large, and gradually diminishing in size to the edge. Tongue with two very large, long, curved teeth, with a triangular plate beneath at their base. Dorsal fins two, far apart. Mouth moderate, edged with transverse foliations.

1. **Velasia chilensis. Chilian Lampern.**
Hab. Chili. In fresh water.

5. CARAGOLA. (Pisces, Pl. IV. fig. 5.)

Upper inner teeth two, large, separate, lateral, submarginal, each with three acute tubercles. Lower inner teeth large, crescent-shaped, nine-lobed; the central and two lateral lobes on each side larger. The labial teeth in a subcircular, submarginal series, large, transverse, band-like, with three or four tubercles. Tongue with two flattened teeth, and a triangular, transverse plate below, with an acute process between the teeth on the upper edge. Dorsal fins two, far apart.

1. **Caragola lapicida. Caragol.**
Hab. West Coast of America.

6. MORDACIA. (Pisces, Pl. IV. fig. 6.)

Upper inner teeth two, separate, lateral, subtrigonal, each with three tubercles. The lower nine conical, acute, in an arched series; the five central smaller. Labial teeth small, conical, in a single, circular, submarginal series, with a single, additional, odd tooth in the centre above. Tongue with two conical, arched teeth. (Rich. Voy. Erebus & Terror, t 38.)

Petromyzon, sp., Rich. Voy. Erebus & Terror, t. 38, 1845.

1. **Mordacia mordax. Australian Lampern.**

Petromyzon mordax, Rich. Voy. Erebus & Terror, t. 38, 1845.—*Mordacia mordax,* Gray, Proc. Zool. Soc. 1851.

Hab. Tasmania.

Species of Doubtful Situation in the Family.

1. **Petromyzon appendix. Small Lamprey.**

Petromyzon appendix, De Kay, Nat. Hist. of New York, 381. pl. 64. f. 211. pt. 1; Zool. 1842.

Hab. N. America, Hudson River.

"A ring of irregular-shaped corneous processes within the oral orifice, and a large isolated double tooth of the same texture on the inferior portion of the mouth."—*De Kay.*

2. **Petromyzon tridentatus. Tridentate Lamprey.**

Petromyzon tridentatus, Gairdener, Rich. Faun. Bor. Amer. 293, 1836; De Kay, Nat. Hist. of New York, 381. pt. 1; Zool. 1842.

Hab. N. America, Falls of the Walamet.

3. **Petromyzon argenteus. Silvery Lamprey.**

Petromyzon argenteus, Bloch, t. 415. f. 2; Schneid. Bloch, 532. t. 102. f. 1, 1801; Shaw, Gen. Zool. v. pt. 2. p. 262, 1841.

Hab. Indian Seas.

4. **Petromyzon bicolor. Brilliant Lamprey.**

Petromyzon bicolor, Shaw, Gen. Zool. v. pt. 2. p. 263, 1804.—*Petromyzon niger,* Lacépède, iv. 667.

Hab. Europe, Seine.

5. **Petromyzon plumbeus. Leaden Lamprey.**

Petromyzon plumbeus, Shaw, Gen. Zool. v. pt. 2. p. 263, 1804.—*Petromyzon Septœil,* Lacépède, iv. 667.

Hab. Europe, Seine.

B. Ammocœtina. *Teeth none; eyes none.*

7. AMMOCŒTES.

Teeth none.

Ammocœtes, Dum. Zool. Anal.; Cuv. Règ. An. ii. 118, 1817; Müll. Abhandl. Akad. Berlin, 1834, 78 (1836).—?*Lampreda,* Rafin. Anal. Nat. 94, 1815.

1. **Ammocœtes branchialis. Pride or Sandpiper.**

Ammocœtes branchialis, Dum.; Flem. Brit. An. 164. sp. 3, 1828; Cuv. Règ. An. 406, 1829; Müll. Mém. de l'Acad. Berlin, 1834; Jen. Man. Brit. Vert. 522. sp. 212, 1835; Yarr. Brit. Fish. 2 ed. ii.

609, 1841.—*Petromyzon branchialis*, Linn. (édit. de Gmelin) 1815; Bloch, pt. 3. pl. 78? f. 2; Linn. Faun. Suec. 292; Wulff. Ichth. Borus. 15. n. 20; Müll. Prod. Zool. Dan. 37. n. 307 *b*; Kramer, Elench. 483; Penn. Brit. Zool. iii. 107. pl. 10, 1776–78; Shaw, Gen. Zool. 260, 1804.—*Petromyzon corpore annuloso, &c.*, Artedi, gen. 42. syn. 90.—*Lamproie branchiale*, Bonn. Planches de l'Encycl.; Daub. Encycl. Méth.—*Petromyzon*, Gronov. Zooph. 38. n. 160; Klein, Misc. Pisc. iii. 30. n. 4.—*Petromyzon cæcus*, Couch, Mag. Nat. Hist. v. 23. f. 60.—*Mustela fluviatilis*, Gesner, Aquat. 589; Icon. Anim. 286; Thierb. 159 *b*.—*Lampetra minima*, Aldrov. 539.—*Lampern, or Pride of the Isis*, Will. Ichth. 104.—*Pride*, Plot, Hist. of Oxford, 182. t. 10.—*Lampetra cæca*, Will. Ichth. tab. g. 3. f. 1; Ray, Syn. Pisc. 35. n. 2, 4; Couch, Loudon's Mag. Nat. Hist. v. 23. f. 9, 10.—*Lampreta neunange*, Jonston, t. 28. f. 10.—*Lamproyon et Lamprillon*, Rond. Hist. Poiss. ii. 202.—*Querder, Schlamquerder*, Schwenckf. Theriotr. Siles. 423.—*Der Kieferwurn*, Müll. l. c. iii. 234.—*Lampreyon*, Valmont de Bomare, Dict. Hist. Nat.—*Le Petromyzon lampreyon*, Lacépède, Hist. Nat. des Poiss. i. 26. pl. 2. f. 1, 1798.

Hab. Europe, rivers.

2. AMMOCŒTES RUBER. RED LAMPREY.

Ammocœtes ruber, Cuv. Règ. An. 406, 1829; Müll. Mém. de l'Acad. Berl. 78, 1834.—*Petromyzon ruber*, Lacépède, Hist. Nat. des Poiss. ii. 99. pl. 1; Supp. to Petromyzon; Shaw, Gen. Zool. v. pt. 2. p. 261, 1804.—*Ammocœtes branchialis, var.*, Cuv. Règ. An. ii. 118, 1817.

Hab. Europe, Seine.

3. AMMOCŒTES CONCOLOR. MUD EEL OR BLIND EEL.

Ammocœtes concolor, Kirtland, Boston Journ. iii. 473. pl. 27. f. 1 *a*, *b*, 1841.

Hab. N. America, Mahoning and Scioto rivers.

4. AMMOCŒTES BICOLOR. COLOURED MUD LAMPREY.

Ammocœtes bicolor, Lesueur, Amer. Phil. Soc. (N. S.) i. 386.—*Ammocœtes bicolor*, Storer, Fishes of Massachusetts, 198; De Kay, Nat. Hist. of New York, 383, 679. f. 248. pt. 1; Zool. 1842.

Hab. N. America, Connecticut river.

5. AMMOCŒTES UNICOLOR. PLAIN MUD LAMPREY.

Ammocœtes unicolor, De Kay, Nat. Hist. of New York, 383. pl. 79. f. 250. pt. 1; Zool. 1842.

Hab. N. America, Lake Champlain.

13. DESCRIPTIONS OF FORTY-THREE NEW SPECIES OF CYCLOSTOMACEA, FROM THE COLLECTION OF HUGH CUMING, ESQ.

BY DR. L. PFEIFFER.

1. **CYCLOSTOMA HIMALAYANUM**, Pfr. *C. testâ umbilicatâ, globoso-turbinatâ, solidulâ, costis spiralibus obtusis,* 10–12, *lineisque interjacentibus obsoletis sculptâ, sub epidermide deciduâ, ... albidâ; spirâ turbinatâ, supernè rufâ, acutiusculâ; anfractibus* 5, *convexiusculis, ultimo ventroso, circa umbilicum angustum, infundibuliformem vix compresso; aperturâ subverticali, circulari; peristomate simplice, continuo, breviter adnato, fusco-igneo, subincrassato, breviter expanso, supernè subangulato.—Operculum?*

Diam. maj. 48, min. 39, alt. 35 mill.

Hab. in Himalayâ.

2. **CYCLOSTOMA EUCHILUM**, Pfr. *C. testâ umbilicatâ, turbinato-subglobosâ, solidulâ, obliquè confertim striatâ, lineis impressis distantioribus obsoletè clathratulâ, albidâ, violaceo-fusco et fulvo variegatâ, parum nitidâ; spirâ turbinato-elevatâ, apice acutiusculâ; anfractibus* 5½, *convexis, ultimo rotundato, ad suturam subdepresso, medio albo-fasciato, basi confertim et valide spiraliter sulcato; umbilico mediocri, infundibuliformi; aperturâ vix obliquâ, subangulato-circulari, intus purpurascenti-carneo-micante; peristomate subcontinuo, albo, marginibus supernè dilatatis, callo subemarginato junctis, dextro et basali latissimis, fornicatim revolutis, sinistro angustato, vix reflexo.—Operculum?*

Diam. maj. 43, min. 32, alt. 28 mill.

Hab. Madagascar.

3. **CYCLOSTOMA CRASSUM**, Pfr. *C. testâ umbilicatâ, turbinato-globosâ, crassâ, striatâ et minutè malleatâ, rubello-fulvâ, fasciis et lineis interruptis castaneis ornatâ; spirâ turbinatâ, obtusiusculâ; anfractibus* 5, *convexis, ultimo supernè turgido, infra medium carinâ funiformi et fasciâ latiore nigricante circumdato, basi subplanulato, circa umbilicum angustum, infundibuliformem subcompresso; aperturâ obliquâ, subangulato-rotundâ, intus rubellâ; peristomate duplice: interno continuo, externo crasso, expanso, ad anfractum penultimum breviter interrupto.—Operculum?*

Diam. maj. 27, min. 23, alt. 18 mill.

Hab. Liew Kiew, et var. minor in insulâ Ibyat (Bashee group).

4. **CYCLOSTOMA EXPANSUM**, Pfr. *C. testâ umbilicatâ, turbinato-subglobosâ, solidiusculâ, spiraliter confertim striatâ, opacâ, supernè castaneo et albido variegatâ; spirâ conoideâ, apice acutiusculâ; anfractibus* 5, *convexiusculis, ultimo convexiore, dilatato, peripheriâ subcarinato, basi fasciis angustis castaneis ornatâ; umbilico angusto, pervio; aperturâ subverticali, ferè circulari; peristomate subsimplice, continuo, breviter adnato, pallidè aurantiaco, undique æqualiter angulatim plano-expanso, margine subrevoluto.—Operculum?*

Diam. maj. 30, min. 22, alt. 19 mill.

Hab. ——?

5. **Cyclostoma unicolor**, Pfr. *C. testâ umbilicatâ, globoso-conicâ, solidâ, longitudinaliter confertissime et regulariter striatâ, spiraliter confertim sulcatâ, opacâ, fulvido-stramineâ; spirâ conicâ, subtruncatâ; anfractibus 6, convexiusculis, ultimo supernè et medio acutè carinato: carinâ tertiâ, validissimâ, circa umbilicum angustum, infundibuliformem, intus profundè spiraliter sulcatum; aperturâ parum obliquâ, angulato-circulari; peristomate simplice, marginibus callo lunatim exciso junctis, dextro expansiusculo, sinistro medio dilatato, patente.—Operculum?*

Diam. maj. 20, min. 17, alt. 16 mill.

β. *Majus, striis longitudinalibus obsoletioribus, albidum.*

Diam. maj. 28, min. 22, alt. 20 mill.

Hab. ——?

6. **Cyclostoma ponderosum**, Pfr. *C. testâ latè umbilicatâ, conoideo-depressâ, crassâ, ponderosâ, subtiliter et obliquè malleato-rugulosâ, olivaceo-fusculâ; spirâ breviter conoideâ, obtusâ; anfractibus 5, parum convexis, celeriter accrescentibus, ultimo lato, subdepresso, ad peripheriam obtusè funiculato-carinato; aperturâ obliquâ, angulato-ovali, intus albâ, nitidâ; peristomate crasso, recto, subcontinuo, supernè angulato-dilatato, margine columellari perarcuato.—Operculum membranaceum, pellucidum, fusculum, arctispirum.*

Diam. maj. 36, min. 30, alt. 20 mill.

Hab. Guatemala.

7. **Cyclostoma Dysoni**, Pfr. *C. testâ umbilicatâ, conoideo-orbiculatâ, solidâ, pliculis confertis undulatis, subconfluentibus sculptâ, fusco-olivaceâ, pallidius strigatâ et obsoletè fasciatâ; spirâ conoideâ, obtusulâ; anfractibus 4½, convexiusculis, celeriter accrescentibus, ultimo rotundato; umbilico mediocri, conico; aperturâ ferè verticali, angulato-subcirculari, intus cærulescente, nitidâ; peristomate simplice, recto, supernè angulato, breviter adnato, margine dextro declivi, columellari subdilatato-patente.—Operculum?*

Diam. maj. 27, min. 22, alt. 16 mill.

Hab. Honduras (Mr. Dyson).

8. **Cyclostoma disculus**, Pfr. *C. testâ umbilicatâ, depressâ, discoideâ, solidiusculâ, nitidâ, alabastrinâ; spirâ planissimâ; anfractibus vix 4, convexiusculis, ad suturam impressam striatis, ultimo teretiusculo, subdepresso, in umbilico lato distinctius striato, anticè brevissimè soluto; aperturâ subverticali, circulari; peristomate continuo, simplice, recto.—Operculum?*

Diam. maj. 14, min. 11, alt. 5 mill.

Hab. ——?

9. **Cyclostoma desciscens**, Pfr. *C. testâ latè umbilicatâ, depresso-semiglobosâ, supernè confertim sulculatâ, albidâ; spirâ convexâ; anfractibus 4½, convexiusculis, ultimo terete, anticè subito deflexo, basi lævigato; aperturâ ferè horizontali, lunato-*

rotundatâ, intus albâ: peristomate incrassato, marginibus remotis, callo junctis, basali reflexo, columellari subito arcuatim ascendente. —Operculum?

Diam. maj. 10, min. 8½, alt. 5½ mill.

Hab. Socotra.

10. **CYCLOSTOMA MARGARITA**, Pfr. *C. testâ perforatâ, globoso-conicâ, solidulâ, lævigatâ, nitidulâ, rubello-succineâ; spirâ conicâ, apice acutiusculâ, sanguineâ; anfractibus* 5, *convexiusculis, ultimo subrotundato; aperturâ parum obliquâ, ovali; peristomate interrupto, simplice, recto, margine columellari perarcuato, subincrassato.—Operculum?*

Diam. maj. 7, min. 6, alt. 6 mill.

Hab. in insulâ Rapâ Oceani pacifici.

11. **CYCLOSTOMA (LEPTOPOMA) LATELIMBATUM**, Pfr. *C. testâ perforatâ, globoso-conicâ, tenui, minutè spiraliter striatâ et lineis obtusis elevatis, subæquidistantibus cinctâ, diaphanâ, parum nitidâ, albâ, maculis et fasciis pallidè fulvis variegatâ; spirâ turbinatâ, acutiusculâ; anfractibus* 5, *convexiusculis, ultimo rotundato, medio lineâ acutè elevatâ subcarinato; umbilico angusto, vix pervio; aperturâ obliquâ, subcirculari; peristomate duplice, albo: interno interrupto, breviter porrecto, marginibus callo tenui junctis, externo undique æqualiter dilatato, angulatim patente, supra perforationem exciso.—Operculum?*

Diam. maj. 17, min. 13, alt. 11 mill.

Hab. in insulis Philippinis.

12. **CYCLOSTOMA (LEPTOPOMA) REGULARE**, Pfr. *C. testâ angustissimè perforatâ, conicâ, globosâ, tenui, lineis approximatis supernè æqualibus sculptâ, interstitiis spiraliter confertim striatâ, diaphanâ, albidâ, maculis fulvidis regulariter tessellatâ; spirâ turbinatâ, apice acutâ, pallidè corneâ, anfractibus* 5½, *convexiusculis, ultimo convexiore, infra liram periphericam inflato, obsoletius lirato; aperturâ obliquâ, lunato-circulari; peristomate interrupto, tenui, albo, breviter patente, margine columellari basi subangulatim dilatato. Operculum?*

Diam. maj. 12½, min. 10, alt. 10 mill.

13. **CYCLOSTOMA (LEPTOPOMA) SERICATUM**, Pfr. *C. testâ perforatâ, globoso-conicâ, tenui, pellucidâ, sericeâ, lineis obliquis, subdistantibus sculptâ, supernè lineis* 4–5 *elevatis, spiralibus munitâ, hyalino-albidâ, liris corneis (vel undique violacescenti-fulvâ, basi pallidiore); spirâ turbinatâ, acutâ, apice nigricante; anfractibus* 5, *superis parum convexis, ultimo inflato, subcarinato, infra carinam fasciâ unicâ castaneâ ornato, basi liris spiralibus nonnullis obsoletioribus sculpto; umbilico angustissimo, non pervio; aperturâ parum obliquâ, subemarginato-circulari; peristomate simplice, interrupto, tenui, horizontaliter patente, margine columellari medio sublingulatim dilatato.—Operculum?*

Diam. maj. 12, min. vix 10, alt. 9 mill.

Hab. in insulâ Borneo (Taylor).

14. Cyclostoma pleurophorum, Pfr. *C. testâ umbilicatâ, globoso-turbinatâ, tenui, longitudinaliter confertè striatâ et costulis filaribus, prominentioribus sculptâ, diaphanâ, parum nitidâ, albido-fulvescente; spirâ turbinatâ, apice acutiusculâ, corneâ; suturâ costis denticulatâ; anfractibus 5, convexis, ultimo subterete, anticè breviter soluto; umbilico mediocri, profundo, angulo cariniformi cincto; aperturâ subverticali, ovato-subcirculari; peristomate continuo, simplice, recto, margine columellari expansiusculo.—Operculum duplex, laminâ externâ testaceâ, 5-spiratâ, marginibus anfractuum liberis, internâ planâ, cartilagineâ.*
Diam. maj. 11, min. $9\frac{2}{3}$, alt. $9\frac{2}{3}$ mill.
Hab. Honduras.

15. Cyclostoma fasciculare, Pfr. *C. testâ perforatâ, acuminato-ovatâ, solidulâ, confertissimè costulato-striatâ, vix sericeâ, griseo-corneâ; spirâ conicâ, acutiusculâ; suturâ costularum fasciculis crenatâ; anfractibus 5, convexiusculis, ultimo rotundato, basi spiraliter sulcato; aperturâ vix obliquâ, ovali; peristomate simplice, recto, acuto.—Operculum terminale, testaceum, planum, paucispirum, anfractibus obliquè striatis.*
Long. 12, diam. 8 mill.
Hab. ——?

16. Cyclostoma Guatemalense, Pfr. *C. testâ perforatâ, oblongâ, solidulâ, subtruncatâ, striatulâ, olivaceo-fuscâ; spirâ convexiusculo-turritâ; anfractibus 6, parum convexis, ultimo angustiore, anticè descendente, breviter soluto, basi, circa perforationem apertam, compresso, nec carinato; aperturâ verticali, subcirculari; peristomate libero, albo, duplice: interno continuo, vix porrecto, externo dilatato, horizontaliter expanso, supra perforationem exciso.—Operculum?*
Long. 24, diam. 8 mill.
Hab. Vera Paz in Guatemalâ.

17. Cyclostoma canescens, Pfr. *C. testâ subperforatâ, oblongo-turritâ, truncatulâ, solidâ, lineis longitudinalibus et spiralibus elevatis regulariter clathratâ, parum nitidâ, griseo-albidâ; spirâ elongatâ; suturâ tuberculis confertis, albis crenatâ; anfractibus superstomate 7, vix convexiusculis, ultimo basi attenuato, circa perforationem obsoletam distinctius spiraliter sulcato; aperturâ verticali, angulato-ovali, intus fusco-carneâ; peristomate duplice: interno vix porrecto, externo undique breviter expanso, supernè angulato, anfractui penultimo breviter adnato.—Operculum?*
Long. 20, diam. 7 mill.
Hab. ——?

18. Cyclostoma violaceum, Pfr. *C. testâ subobtectè perforatâ, ovato-turritâ, truncatâ, solidulâ, lineis elevatis spiralibus et confertioribus longitudinalibus oblongo-granulatâ, haud scabrâ, non nitente, saturatè violaceâ; spirâ turritâ, truncatâ; anfractibus superstomate $4\frac{1}{2}$, convexis, ultimo rotundato; aperturâ subverticali,*

ovali; peristomate simplice, albo, continuo, margine dextro subincrassato, angustè angulatim patente, columellari in laminam sinuosam, perforationem occultantem, nec claudentem, dilatato.—Operculum immersum, testaceum, planum, cinereum, paucispirum.
Long. 20, diam. 11 mill.
Hab. ——?

19. Cyclostoma Shuttleworthi, Pfr. *C. testá clausè umbilicatá, oblongá, truncatá, spiraliter confertim plicatá, lineis longitudinalibus obsoletè decussatá, sericeá, pallidissimè fulvidá, fasciis valdè interruptis castaneis ornatá; spirá oblongá; anfractibus superstomate* 3, *convexiusculis, ultimo basi rotundato; aperturá verticali, angulato-ovali; peristomate duplice: interno brevi, expansiusculo, externo latè patente, concentricè striato, radiatim plicato et castaneo-radiato, ad columellam exciso, laminá albá fornicatá umbilicum prorsus claudente.—Operculum terminale, cartilagineum, paucispirum, nucleo basali.*
Long. 22, diam. $11\frac{1}{2}$ mill.
Hab. in insulâ Cubâ.

20. Cyclostoma radula, Pfr. *C. testá perforatá, ovato-oblongá, truncatá, tenui, lineis elevatis spiralibus et costis acutis longitudinalibus subtiliter asperato-decussatá, pallidè corneá, fasciis angustis, rufis, interruptis ornatá, non nitente; spirá sursum attenuatá, latè truncatá; suturá profundá, subsimplice; anfractibus superstomate* 4, *convexis, ultimo angustiore, rotundato; aperturá verticali, circulari; peristomate duplice: interno continuo, vix porrecto, externo dilatato, horizontaliter patente, concentricè striato, ad anfractum penultimum subexciso, margine sinistro fimbriato-inciso.—Operculum planum, e duabus laminis compositum, externá subtestaceá, anfractibus* $3\frac{1}{2}$, *nucleo subcentrali.*
Long. 14, diam. 7 mill.
Hab. Almendares prope Havana.

21. Cyclostoma ovatum, Pfr. *C. testá obtectè perforatá, oblongo-ovatá, truncatá, tenui, longitudinaliter confertim plicatulá, sericeá, fusco-corneá, vel pallidissimè corneá, maculis rufis seriatim dispositis ornatá; spirá ovato-conicá, truncatá; suturá levi, irregulariter tuberculato-crenatá; anfractibus superstomate* 5, *convexiusculis, ultimo paulo angustiore, basi obsoletè spiraliter sulcato; aperturá verticali, rotundato-ovali; peristomate fusculo, duplice: interno breviter porrecto, externo undique dilatato, campanulato-expanso, radiato-costato, supernè angulatim reflexo, anfractui penultimo longè adnato, perforationem claudente, margine sinistro subauriculato, libero.—Operculum?*
Long. $17\frac{1}{2}$, diam. 8 mill.
Hab. in insulâ Cubâ.

22. Cyclostoma Grateloupi, Pfr. *C. testá perforatá, oblongá, pupiformi, truncatá, tenuiusculá, spiraliter confertim sulcatá et costis longitudinalibus, confertis, non interruptis sculptá, diaphaná,*

parum nitidá, corneo-albidá, fasciis strigatim interruptis castaneis ornatá; spirá sursum parum attenuatá, latè truncatá; suturá levi, crenatá: crenis supernè minutis, confertis, in anfractibus ultimis fasciculatim dilatatis, obtusis; anfractibus superstomate 4, vix convexiusculis, ultimo anticè breviter soluto, basi rotundato; aperturá verticali, ovali; peristomate duplice: interno breviter expanso, adnato, externo campanulato-patente, rufo radiato, supernè cucullatim elevato, tum emarginato et anfractui penultimo adnato.—Operculum testaceum, planum, anfractibus 3, marginibus lamelloso-liberis.

Long. 16, diam. 7 mill.

β. *T. minor, crenulis suturæ confertis, acutis.*

Hab. Yucatan, var. β. in Indiâ occidentali.

23. **Cyclostoma histrio**, Pfr. *C. testá profundè rimatá, ovato-conicá, solidiusculá, longitudinaliter confertim plicatá, parum nitidá, albidá, strigis latis obliquis, angulosis, fuscis pictá; spirá elato-conicá, vix truncatulá; suturá supernè minutè denticulatá, anfractuum inferiorum subsimplice; anfractibus 4½, convexis, ultimo rotundato, basi ultra axin subproducto; aperturá subobliquá, subcirculari, intus nitidá, fulvidá, nebulosá; peristomate lateritio, duplice: interno continuo, latè expanso, appresso, externo latiore, horizontaliter patente, supernè sinuato-angulato, ad anfractum penultimum breviter interrupto.—Operculum?*

Long. 20, diam. 11 mill.

Hab. in insulâ Jamaicâ.

24. **Cyclostoma integrum**, Pfr. *C. testá perforatá, turritá, tenuiusculá, integrá, lineis obsoletè elevatis spiralibus et costulis confertis longitudinalibus (tertiá vel quartá quávis validiore) subdecussatá, fulvidá, fasciis interruptis rufis cingulatá; spirá regulariter turritá, apice obtusiusculá; suturá subconfertè denticulatá; anfractibus 7, convexis, 2 primis lævigatis, ultimo rotundato, antrorsum breviter soluto, vix descendente, basi rotundato, fasciis 2–3 continuis rufis ornato; aperturá vix obliquá, ovali; peristomate subduplicato: interno continuo, adnato, externo patente, supernè subangulato-dilatato, tum emarginato, latere columellari undulato.—Operculum cartilagineum, planum, paucispirum.*

Long. 12, diam. 5 mill.

Hab. in Indiâ occidentali.

25. **Cyclostoma harpa**, Pfr. *C. testá breviter rimatá, oblongo-turritá, tenuiusculá, plicis longitudinalibus chordiformibus subdistantibus munitá, cinnamomeo-carneá, haud nitente, lineis rufis strigatim interruptis ornatá; spirá turritá, integrá, sursum nigro-violaceá, apice obtusá; suturá profundá, plicis prominentibus subcrenatá; anfractibus 6, convexis, ultimo rotundato; aperturá verticali, ovali-subcirculari; peristomate rubello, duplice: interno expansiusculo, appresso, externo undique vix dilatato-patente, anfractui penultimo breviter adnato.—Operculum?*

Long. 12, diam. 6 mill.

Hab. Almendares prope Havana.

26. Cyclostoma pingue, Pfr. *C. testá umbilicatá, oblongo-turritá, truncatá, solidá, liris spiralibus obtusis undulatá, striis longitudinalibus confertissimis sculptá, oleoso-micante, cinnamomeo-fuscá; suturá profundá, simplice; anfractibus superstomate 4, convexis, regulariter accrescentibus, ultimo rotundato; aperturá subverticali, ferè circulari; peristomate albo, duplice: interno expansiusculo, adnato, externo continuo, horizontaliter expanso, anfractui penultimo brevissimè adnato, supernè angulato.—Operculum?*

Long. 12½, diam. 6 mill.

Hab. ——?

27. Cyclostoma pallidum, Pfr. *C. testá perforatá, ovato-turritá, truncatá, tenui, lineis elevatis spiralibus et confertissimis longitudinalibus (hic illic irregularibus, subconfluentibus) minutè decussatá, pallidè corneá, lineolis rufis interruptis obsoletè pictá; suturá profundá, subsimplice; anfractibus superstomate 4, convexis, ultimo rotundato; aperturá verticali, ovali-circulari; peristomate duplice, interno albo, porrecto, expansiusculo, externo dilatato, horizontaliter patente, concentricè striato, anfractui penultimo breviter adnato, margine sinistro angustiore.—Operculum terminale, testaceum, anfractibus 3½, obliquè striatis, marginibus subliberis.*

Long. 17½, diam. 8½ mill.

Hab. Almendares prope Havana.

28. Cyclostoma Cumanense, Pfr. *C. testá perforatá, turrito-oblongá, truncatá, tenui, longitudinaliter confertim plicatá, sericeá, pellucidá, corneo-lutescente, maculis castaneis fasciatim dispositis ornatá; suturá plicis excurrentibus confertim subcrenatá; anfractibus superstomate 5, subconvexis, ultimo basi rotundato, anticè breviter soluto, dorso carinato; aperturá subverticali, ovali, supernè subangulatá; peristomate libero, simplice, undique vix expanso.—Operculum cartilagineum, planum, paucispirum.*

Long. 15, diam. 7½ mill.

29. Cyclostoma turritum, Pfr. *C. testá subperforatá, turritá, truncatulá, lineis elevatis spiralibus et longitudinalibus regulariter clathratá, albidá, lineolis rufis interruptis cinctá; suturá subprofundá, confertim denticulatá; anfractibus superstomate 6, convexiusculis, regulariter accrescentibus, ultimo rotundato; aperturá verticali, ovali, intus fulvidá; peristomate subduplice: interno continuo, expansiusculo, externo supernè angulatim dilatato, margine dextro vix patente, columellari et sinistro exciso.—Operculum?*

Long. 16, diam. 7 mill.

Hab. Honduras (Mr. Dyson).

30. Cyclostoma diaphanum, Pfr. *C. testá subperforatá, oblongo-turritá, truncatá, tenuiusculá, lineis elevatis spiralibus confertis, costulisque illas transgredientibus filaribus confertioribus decussatá, diaphaná, unicolore albidá; spirá elongatá; suturá irregulariter crenatá; anfractibus superstomate 4½, convexis, sub-*

æqualibus, ultimo anticè soluto, dorso carinato, basi rotundato, distinctius spiraliter sulcato; aperturâ verticali, angulato-ovali; peristomate subsimplice, continuo, undique breviter expanso.—Operculum?

Long. 12, diam. 5 mill.

Hab. —— ?

31. Cyclostoma lugubre, Pfr. *C. testâ perforatâ, turrito-oblongâ, solidâ; truncatâ, liris obtusis spiralibus, costulisque submembranaceis illas transgredientibus sculptâ, fusculâ, violaceo-fusco latè unifasciatâ; spirâ parum attenuatâ; suturâ confertim et subacutè fasciculato-crenatâ; anfractibus superstomate 5, convexiusculis, ultimo anticè breviter soluto, subdescendente, dorso compresso, basi distinctius spiraliter lirato; aperturâ verticali, obliquè ovali; peristomate subsimplice, continuo, margine sinistro breviter, reliquis paulò latius expansis, subundulatis.—Operculum?*

Long. 16, diam. ferè 7 mill.

Hab. in insulâ Jamaicâ.

32. Cyclostoma Kusteri, Pfr. *C. testâ perforatâ, ovato-turritâ, truncatâ, tenui, sulcis spiralibus et costulis longitudinalibus confertis regulariter granulato-reticulatâ, vix nitente, diaphanâ, fusco-corneâ, lineis obsoletis rufis interruptis pictâ; spirâ convexo-turritâ, latè truncatâ; suturâ profundâ, simplice; anfractibus superstomate 4, convexis, ultimo angustiore, rotundato; aperturâ subverticali, subcirculari; peristomate duplice: interno breviter expanso, adnato, externo campanulato-expanso, concentricè striato, anticè concavo, rufo-radiato, supernè angulato, ad anfractum penultimum angustato.—Operculum?*

Long. 14, diam. 7 mill.

Hab. Honduras (Mr. Dyson).

33. Cyclostoma trochlea, Pfr. *C. testâ perforatâ, oblongo-turritâ, truncatâ, costis filaribus spiralibus et longitudinalibus subregulariter clathratâ, haud nitente, pallidè fusculâ, punctis rufis subseriatis variegatâ; spirâ elongatâ, trochleari, latè truncatâ; suturâ profundâ, simplice; anfractibus superstomate 5, perconvexis; aperturâ verticali, subcirculari; peristomate duplice: interno vix porrecto, externo horizontaliter expanso, supernè in rostrum recurvatum dilatato, ad anfractum penultimum breviter interrupto, latere sinistro inciso-crenulato.—Operculum?*

Long. 14, diam. 6 mill.

Hab. —— ?

34. Cyclostoma alternans, Pfr. *C. testâ mediocriter umbilicatâ, conoideo-depressâ, tenuiusculâ, acutè multiliratâ, liris alternis minoribus, haud nitente, subepidermide pallidè lutescente fugace albâ; spirâ breviter conoideo-elevatâ, obtusiusculâ; suturâ subcanaliculatâ; anfractibus 5, convexiusculis, ultimo rotundato; aperturâ parum obliquâ, subcirculari; peristomate simplice, recto, fusco-limbato, subcontinuo, marginibus ad anfractum penultimum*

callo nitido junctis.—Operculum membranaceum, planum, cereum, arctispirum.

Diam. maj. 20, min. 16, alt. 10 mill.

Hab. Madagascar.

35. **Cyclostoma rusticum**, Pfr. *C. testâ latè umbilicatâ, depressâ, subdiscoideâ, solidâ, spiraliter confertim liratâ, non nitente, sordidè albidâ, pallidè fusculo irregulariter variegatâ; spirâ parum elevatâ, vertice submucronuto; anfractibus* $4\frac{1}{2}$, *convexiusculis, ad suturam subdepressis, ultimo terete, anticè descendente; aperturâ diagonali, subcirculari, intus carneâ; peristomate simplice, breviter expanso, marginibus callo brevi junctis, supero repando.—Operculum?*

Long. maj. $17\frac{1}{2}$, min. $13\frac{1}{2}$, alt. $7\frac{1}{2}$ mill.

Hab. ——?

36. **Cyclostoma psilomitum**, Pfr. *C. testâ mediocriter umbilicatâ, depresso-conoideâ, solidulâ, virenti-luteâ, vix nitidulâ, lineis spiralibus subtilissimis, piloso-elevatis crebris obscurioribus cinctâ; spirâ breviter conoideâ, obtusâ; suturâ subcanaliculatâ; anfractibus 4, convexis, ultimo terete, non descendente; aperturâ ferè verticali, subcirculari, intus albidâ; peristomate simplice, acuto, marginibus ferè contiguis, callo brevi junctis.—Operculum?*

Diam. maj. 15, min. 11, alt. 8 mill.

Hab. Venezuela.

37. **Cyclostoma alatum**, Pfr. *C. testâ latè umbilicatâ, conoideo-depressâ, solidulâ, obliquè confertim et inæqualiter costulatâ, vix diaphanâ, albidâ, fasciis angustis pallidissime corneis variegatâ; spirâ brevissime conoideâ, acutiusculâ; suturâ simplice; anfractibus 4, modicè convexis, ultimo subterete, anticè vix descendente, lilaceo-nebuloso; aperturâ diagonali, subcirculari, intus lilaceo-fusculâ; peristomate subduplice, latere dextro et basali connato, expanso, externo supernè alatim dilatato, latere sinistro subreflexo.—Operculum?*

Diam. maj. 16, min. 13, alt. 8 mill.

Hab. S. Yago de Cuba.

38. **Cyclostoma scalare**, Pfr. *C. testâ angustè umbilicatâ, conoideâ, solidulâ, obliquè striatulâ, nitidulâ, corneo-luteâ; spirâ elatâ, scalari, apice acutâ; suturâ profundâ; anfractibus* $4\frac{1}{2}$, *perconvexis, ultimo terete, anticè subsoluto; aperturâ obliquâ, circulari, intus margaritaceâ; peristomate simplice, continuo, undique vix expansiusculo.—Operculum?*

Diam. maj. 9, min. 7, alt. $6\frac{1}{2}$ mill.

Hab. in insulis Philippinis.

39. **Cyclostoma (Cyclophorus) lutescens**, Pfr. *C. testâ umbilicatâ, depresso-conoideâ, solidâ, obliquè filoso-striatâ, sericeâ, fusco-lutescente; spirâ breviter conoideâ, apice acutiusculâ; suturâ profundâ, simplice; anfractibus* $4\frac{1}{2}$, *convexis, rapide accrescentibus,*

ultimo non descendente; umbilico mediocri, profundo; aperturâ vix obliquâ, rotundato-ovali; peristomate simplice, recto, acuto, continuo, breviter adnato, supernè vix angulato.—Operculum membranaceum, pallidè corneum, rectispirum, extus profundè concavum.
Diam. maj. 20, min. 15½, alt. 12 mill.
Hab. in Brasiliâ.

40. CYCLOSTOMA GUTTATUM, Pfr. *C. testâ umbilicatâ, depressâ, solidâ, glabrâ, nitidâ, læte castaneâ, maculis albis subtriangularibus guttatâ; spirâ vix elevatâ, apice fuscâ, submucronatâ; anfractibus 4½, convexiusculis, celeriter crescentibus, ad suturam impressam striatulis; umbilico latiusculo, pervio; aperturâ parum obliquâ, circulari, intus albidâ; peristomate subduplice: interno vix distinguendo, externo expanso, supernè in linguam brevem, anfractui penultimo adnatam, dilatato.—Operculum?*
Diam. maj. 19, min. 15, alt. 9 mill.
Hab. ——?

41. CYCLOSTOMA IGNESCENS, Pfr. *C. testâ perforatâ, globoso-conicâ, tenui, lineis spiralibus subtilissimis confertim sculptâ, diaphanâ, nitidâ, ignescente; spirâ turbinatâ, obtusiusculâ; suturâ profundâ; anfractibus 4½, convexis, ultimo basi distinctius sulcato; aperturâ obliquâ, subcirculari; peristomate simplice, expanso, marginibus approximatis, non junctis.—Operculum?*
Diam. maj. 14, min. 11, alt. 11½ mill.
Hab. in Novâ Hiberniâ.

42. CYCLOSTOMA FUSCULUM, Pfr. *C. testâ angustissime umbilicatâ, globoso-conicâ, tenui, lineis elevatis spiralibus subconfertis, lirâque mediocri peripheric\u00e2 validiore cariniformi sculptâ, vix nitidulâ, unicolore fusculâ, fasciâ unicâ angustâ rufâ infra carinam pallidam ornatâ; spirâ conicâ, obtusiusculâ; anfractibus 5, convexis, ultimo interdum carinâ, secundo superne notato, basi minute spiraliter sulcato; aperturâ parum obliquâ, rotundato-ovali; peristomate simplice, tenui, undique expansiusculo, marginibus approximatis, non junctis.—Operculum testaceum, planum, cinereum, 4-spirum, nucleo subcentrali.*
Diam. maj. 11½, min. 9½, alt. 9 mill.
Hab. ——?

43. CYCLOSTOMA CASTANEUM, Pfr. *C. testâ angustè umbilicatâ, globoso-conicâ, tenui, obliquè striatulâ et liris subacutis multis sculptâ, nitidâ, saturatè castaneâ; spirâ elevato-conicâ, apice obtusiusculâ; anfractibus 4½, angulato-convexis, ultimo liris 6 subæqualibus, pluribusque minoribus, confertioribus in umbilico munito; aperturâ parum obliquâ, subcirculari; peristomate simplice, tenui, undique expansiusculo, marginibus approximatis, non junctis. —Operculum testaceum, planum, paucispirum, nucleo subcentrali.*
Diam. maj. 11, min. 9, alt. 9 mill.
Hab. in insulâ Madagascar.

To this was added the following description of various species of *Helicea.*

14. Description of Fifty-four New Species of Helicea, from the Collection of Hugh Cuming, Esq.

By Dr. L. Pfeiffer.

1. **Streptaxis discus**, Pfr. *S. testâ latè umbilicatâ, discoideâ, subregulari, lævigatâ, albido-hyalinâ; spirâ planâ, vertice prominulo; anfractibus 6½, vix convexiusculis, irregulariter varicosis, ultimo depresso, subtus deviante, pone aperturam rotundato, deflexo; aperturâ subhorizontali, transversè sinuato-auriformi, plicâ obliquâ parietali et dentibus peristomatis coarctatâ; peristomate candido, reflexo, margine supero impresso, obsoletè dentato, dextro dente distinctiore munito, basi intus transversè calloso.*

Diam. maj. 14, min. 11, alt. 4½ mill.

Hab. ——?

2. **Helix Richmondiana**, Pfr. *H. testâ imperforatâ, trochiformi, solidâ, striatâ et irregulariter granulatâ, nitidâ, castaneâ; spirâ castaneâ, sursum pallidiore, apice obtusiusculâ; anfractibus 5½, planis, sensim accrescentibus, ultimo compressè carinato, anticè vix deflexiusculo; basi plano; aperturâ perobliquâ, subrhombeâ, ad carinam rostratâ, intus livido-opalinâ; peristomate nigrofusco, subincrassato, marginibus callo tenui junctis, supero expanso, basali dilatato, reflexo.*

Diam. maj. 54, min. 47, alt. 30 mill.

Hab. ad Richmond River, Australia.

3. **Helix semidecussata**, Pfr. *H. testâ perforatâ, conoideâ, solidâ, supernè minute decussatâ, opacâ, unicolore rufo-fuscâ; spirâ conoideâ, acutiusculâ; anfractibus 7, vix convexiusculis, ultimo carinato, non descendente, basi convexo; aperturâ diagonali, angulato-lunari; peristomate simplice, recto, obtuso, margine columellari supernè brevissimè reflexiusculo.*

Diam. maj. 33, min. 30, alt. 18 mill.

Hab. in insulâ Mauritii.

4. **Helix Souleyetiana**, Pfr. *H. testâ perforatâ, conoideo-depressâ, solidulâ, rugoso-striatâ, supernè inter strias sub lente confertissimè undulato-lineatâ, pallidè fulvâ; spirâ breviter conoideâ, obtusiusculâ; anfractibus 6 subplanis, lentè accrescentibus, ultimo acutè carinato, infra carinam castaneo-fasciato, convexo, medio profundè excavato; aperturâ perobliquâ, angulato-lunari; peristomate simplice, marginibus subparallelis, dextro antrorsum subarcuato, columellari subincrassato, supernè brevissimè reflexo.*

Diam. maj. 52, min. 36, alt. 18 mill.

Hab. ——?

5. **Helix radians**, Pfr. *H. testâ imperforatâ, depressâ, tenui, lævigatâ, nitidissimâ, pellucidâ, corneâ, strigis albidis irregulariter radiatâ; spirâ brevissimâ, convexâ; suturâ impressâ, submarginatâ; anfractibus 4½, planiusculis, ultimo non descendente, supernè*

angulato, basi convexo, medio subimpresso; aperturâ subverticali, angulato-lunari; peristomate simplicissimo, recto.
Diam. maj. 9, min. 8, alt. 4 mill.
Hab. in insulâ Tahiti.

6. HELIX GARTNERIANA, Pfr. *H. testâ umbilicatâ, coniformi, solidâ, irregulariter elevato-striatâ, opacâ, nitidulâ, lutescenti-carneâ; spirâ conicâ, apice obtusâ; suturâ submarginatâ; anfractibus 7, convexis, ultimo peripheriâ subangulato, lineâ rubrâ cincto, anticè non descendente, subtus planiusculo; umbilico angustissimo, pervio; aperturâ parum obliquâ, subtetragonâ; peristomate albo, margine supero ferè angulatim arcuato, expanso, basali substricto, columellari lilaceo, brevi, verticali, reflexo.*
Diam. maj. 22, min. 19, alt. 22 mill.
Hab. ——?

7. HELIX LITURATA, Pfr. *H. testâ imperforatâ, turbinato-semiglobosâ, striatâ, minutè rugoso-malleatâ, nitidulâ, roseo-carneâ, fasciis punctatim vel lituratim interruptis rufis ornatâ; spirâ depresso-turbinatâ, apice acutiusculâ; anfractibus 5, convexiusculis, ultimo vix descendente, peripheriâ rotundato, fasciâ castaneâ, subtessellatâ circumdato, basi convexiusculo; aperturâ diagonali, rotundato-lunari; peristomate simplice, margine dextro vix expansiusculo, columellari subcalloso.*
Diam. maj. 23, min. 20, alt. 15 mill.
Hab. ——?

8. HELIX BRARDIANA, Pfr. *H. testâ umbilicatâ, subturbinato-depressâ, tenui, striatâ, fulvâ, pellucidâ, maculis luteis opacis irregulariter variegatâ; spirâ subturbinatâ, apice acutiusculâ; anfractibus 5, vix convexiusculis, ultimo non descendente, peripheriâ angulato, basi convexiore; umbilico angusto, pervio; aperturâ parum obliquâ, rotundato-lunari; peristomate simplice, tenui, undique expanso, margine columellari subdilatato, patente.*
Diam. maj. 14, min. 12, alt. 8½ mill.
Hab. in insulâ Bourbon.

9. HELIX STURMIANA, Pfr. *H. testâ mediocriter umbilicatâ, depresso-semiglobosâ, solidâ, supernè confertim plicatâ, parum nitidâ, unicolore fusco-lutescente; spirâ brevi, convexâ, obtusâ; anfractibus 4, planiusculis, rapidè accrescentibus, ultimo anticè descendente, subdepresso, peripheriâ rotundato, basi convexo, lævigato; aperturâ parum obliquâ, lunato-ovali, intus margaritaceâ; peristomate simplice, marginibus conniventibus, callo tenui junctis, supero recto, basali subreflexo.*
Diam. maj. 22, min. 18½, alt. 12 mill.
Hab. ——?

10. HELIX LAYARDI, Pfr. *H. testâ perforatâ, turbinatâ, tenuiusculâ, ruguloso-striatâ, parum nitente, pellucidâ, pallidè corneâ; spirâ conoideâ, apice acutiusculâ; anfractibus 5½, convexiusculis, ultimo carinato, non descendente, basi convexo; aperturâ parum*

obliquâ, rotundato-lunari, vix angulatâ; peristomate recto, tenui, acuto, margine columellari supernè brevissimè reflexiusculo.
Diam. maj. 13, min. ferè 12, alt. 9 mill.
Hab. in insulâ Ceylon (*Mr. Layard*).

11. **Helix Woodiana**, Pfr. *H. testâ umbilicatâ, depressâ, tenui, lævigatâ, nitidissimâ, corneo-fuscâ; spirâ parum elevatâ, vertice subtili; suturâ impressâ; anfractibus 5, vix convexiusculis, lentè accrescentibus, ultimo depresso, obsoletè angulato, non descendente, basi planiusculo; umbilico angusto, pervio; aperturâ subverticali, lunari; peristomate simplice, recto, acuto, margine columellari vix reflexiusculo.*
Diam. maj. 10, min. 9, alt. 4½ mill.
Hab. in insulâ Ceylon (*Mr. Layard*).

12. **Helix Forsteriana**, Pfr. *H. testâ umbilicatâ, globoso-depressâ, tenuiusculâ, undique minutè granulatâ, diaphanâ, corneo-isabellinâ, fasciis 2 angustis rufis supernè ornatâ; spirâ parum elevatâ, convexo-conoideâ, vertice acutiusculo; anfractibus 6, convexiusculis, ultimo anticè vix descendente, basi subplanulato; umbilico mediocri, pervio; aperturâ obliquâ, rotundato-lunari; peristomate simplice, marginibus remotis, dextro recto, basali reflexo, columellari in laminam triangularem, violaceo-fuscam, fornicatim dilatato.*
Diam. maj. 20½, min. 18, alt. 12 mill.
Hab. in Australiâ boreali.

13. **Helix ptychomphala**, Pfr. *H. testâ umbilicatâ, depresso-globosâ, tenui, supernè confertim costulatâ, lineis concentricis paucis obsoletè decussatâ, nitidâ, castaneo-corneâ; spirâ vix convexâ; anfractibus 4, vix convexiusculis, ultimo non descendente, obsoletissimè angulato, basi convexo, lævigato, corneo-virente, circa umbilicum mediocrem, pervium confertim plicato; aperturâ parum obliquâ, irregulariter truncato-ovali, multo altiore quam latâ; peristomate simplice, obtuso, margine columellari elongato, substrictè descendente, supernè fornicatim reflexo.*
Diam. maj. 22, min. 20, alt. 13 mill.
Hab. ad Portum Essington.

14. **Helix Poiretiana**, Pfr. *H. testâ perforatâ, conicâ, solidâ, striatulâ, nitidâ, carneo-albidâ, strigis pallidè fusculis irregulariter pictâ; spirâ conicâ, obtusiusculâ; suturâ impressâ, subtilissimè crenulatâ; anfractibus 7, vix convexiusculis, ultimo subrotundato, fasciâ unâ fuscâ signato, anticè breviter descendente; aperturâ diagonali, lunato-rotundatâ; peristomate acuto, margine dextro repando, basali subincrassato, columellari fornicatim reflexo, perforationem ferè tegente.*
Diam. maj. 19½, min. 18½, alt. 23 mill.
Hab. ad Portum Essington.

15. **Helix Dillwyniana**, Pfr. *H. testâ umbilicatâ, depressâ, solidâ, irregulariter rugosâ et subtilissimè malleatâ, nitidâ, cre-*

taceâ; spirâ subplanâ, vertice papillatim prominulo, castaneo; anfractibus $4\frac{1}{2}$, *planiusculis, ultimo rotundato, anticè breviter deflexo, basi inflato; umbilico angusto, non pervio; aperturâ perobliquâ, latè lunari, intus albâ; peristomate acuto, intus incrassato, margine supero subhorizontali et dextro arcuato expansis, basali substricto, reflexo, columellari brevissimo, angusto, patente.*

Diam. maj. 31, min. 25, alt. 14 mill.
Hab. ——?

16. **Bulimus glaucophthalmus**, Pfr. *B. testâ imperforatâ, ovato-oblongâ, solidâ, striatulâ, nigro-castuneâ, epidermide hydrophanâ fusco-cinereâ strigatâ; spirâ convexo-conicâ, apice saturatè cæruleâ, obtusâ; suturâ impressâ; anfractibus* 5, *convexiusculis, ultimo spirâ breviore, basi obsoletè angulato; columellâ subdeclivi, dilatatâ, planâ, albâ, basi subdentatâ; aperturâ obliquâ, truncato-ovali, intus lividâ; peristomate simplice, brevissimè expanso, margine dextro repando.*

Long. 36, diam. 25 mill.
Hab. in insulis Philippinis.

17. **Bulimus suturalis**, Pfr. *B. testâ imperforatâ, oblongo-conicâ, tenui, striatulâ, nitidulâ, alabastrino-albidâ; spirâ conicâ, apice obtusâ; suturâ parum impressâ, candidâ, confertissimè noduloso-crenatâ; anfractibus* 7, *planiusculis, ultimo* $\frac{3}{7}$ *longitudinis subæquante, infra medium obtusè angulato et fasciis* 2 *nigricanti-castaneis ornato; columellâ supernè fusco-callosâ, subtortâ; aperturâ obliquâ, truncato-oblongâ; peristomate simplice, vix expansiusculo.*

Long. 43, diam. 23 mill.
Hab. in Africâ occidentali.

18. **Bulimus luctuosus**, Pfr. *B. testâ perforatâ, oblongo-acuminatâ, solidulâ, obsoletè decussatâ, vix nitidulâ, atro-castaneâ; spirâ elongatâ, apice obtusâ; suturâ impressâ, submarginatâ; anfractibus* 7, *convexiusculis, ultimo* $\frac{1}{3}$ *longitudinis paulo superante, basi circa perforationem angustam subcarinato; columellâ verticali, levissimè arcuatâ; aperturâ parum obliquâ, subsemiovali, ad columellam angulatâ, intus lividâ; peristomate simplice, recto, margine columellari fornicato, breviter reflexo.*

Long. 39, diam. 17 mill.
Hab. in Africâ occidentali.

19. **Bulimus infundibulum**, Pfr. *B. testâ umbilicatâ, ovato-conicâ, subfusiformi, confertim striatâ, opacâ, albâ; spirâ convexo-conicâ, apice attenuatâ, roseâ, acutiusculâ; suturâ lineari; anfractibus* 9, *ferè planis, ultimo* $\frac{3}{7}$ *longitudinis subæquante, basi attenuato, circa umbilicum latum, pervium, infundibuliformem compresso; aperturâ subverticali, angustâ, oblongâ; peristomate simplice, marginibus supernè approximatis, dextro breviter expanso, columellari subdilatato, patente.*

Long. 18, diam. 7 mill.
Hab. in Andibus Peruvianis.
Nearly allied to *Bul. umbilicaris*, Souleyet.

20. **Bulimus subinterruptus**, Pfr. *B. testâ perforatâ, subfusiformi-oblongâ, tenuiusculâ, lævigatâ, sub lente spiraliter striatâ, nitidulâ, albidâ, fasciis 5 latis, subinterruptis, spadiceis ornatâ; spirâ elongato-conicâ, acutâ; suturâ parum impressâ; anfractibus 6, planiusculis, ultimo spiram paulo superante, basi attenuato; columellâ substrictâ, recedente; aperturâ obliquâ, angustâ, acuminato-semiovali; peristomate simplice, tenui, lutescente, margine dextro latè expanso, columellari triangulatim e basi dilatato, supernè latè reflexo.*
Long. 37, diam. 13½ mill.
Hab. in Andibus Boliviæ.

21. **Bulimus varicosus**, Pfr. *B. testâ perforatâ, oblongo-acuminatâ, tenui, striatâ, sub lente obsoletè decussatulâ, parum nitente, albidâ, strigis castaneis sparsis irregulariter variegatâ; suturâ irregulariter crenulatâ; spirâ elongato-conicâ, acutiusculâ; anfractibus 6, convexiusculis, varicosis (varicibus prioribus obtusis, ultimo acutè prominente), ultimo spirâ vix breviore, basi subcompresso; columellâ supernè subtortâ; aperturâ parum obliquâ, oblongo-ovali; peristomate simplice, tenui, margine dextro latè expanso, columellari dilatato, applanato, patente.*
Long. 35, diam. 14 mill.
Hab. in republicâ Mexicanâ.

22. **Bulimus attenuatus**, Pfr. *B. testâ subperforatâ, fusiformi-oblongâ, solidiusculâ, sublævigatâ, nitidâ, albâ, strigis latis, maculatim subinterruptis, spadiceis, ornatâ; spirâ conicâ, acutiusculâ; anfractibus ferè 6, convexiusculis, ultimo spiram paulo superante, anticè striato, basi attenuato; columellâ intrante, tortâ, funali; aperturâ vix obliquâ, ovali-oblongâ; peristomate simplice, tenui, margine dextro breviter expanso, columellari breviter reflexo, supernè adnato.*
Long. 34, diam. 13 mill.
Hab. Vera Cruz.

23. **Bulimus elæodes**, Pfr. *B. testâ imperforatâ, ovatâ, tenuiusculâ, rugoso-striatâ, transversè submalleatâ, diaphanâ, nitidâ, castaneo-olivaceâ; spirâ conoideâ, apice obtusâ; anfractibus 4, convexiusculis, ultimo* $\frac{4}{7}$ *longitudinis subæquante, anticè descendente, basi subrotundato; columellâ intrante, subtortâ, roseâ; aperturâ subverticali, ovali, intus margaritaceâ; peristomate roseo, subincrassato, breviter reflexo, marginibus callo supra regionem umbilici dilatato junctis.*
Long. 36, diam. 18 mill.
Hab. in Andibus Novæ Granadæ.

24. **Bulimus scytodes**, Pfr. *B. testâ imperforatâ, ovato-conicâ, tenui, remotè striatâ, undique minutè granulatâ (granulis non seriatis), haud nitente, fuscâ, maculis rufis majoribusque nigricantibus irregulariter adspersâ, lineis longitudinalibus flexuosis, angulatis, luteis, sæpe geminatis vel anastomosantibus pictâ; spirâ brevi, convexo-conicâ, obtusiusculâ; anfractibus 4, convexiusculis,*

ultimo magno, $\frac{4}{7}$ longitudinis æquante, anticè deflexo, basi rotundato; columellâ filari, intrante, leviter arcuatâ; aperturâ parum obliquâ, ovali, intus concolore, nitidâ; peristomate simplice, tenui, rubello, undique breviter expanso.
Long. 35, diam. 17$\frac{1}{2}$ mill.
Hab. in Andibus Novæ Granadæ.

25. Bulimus meleagris, Pfr. *B. testâ imperforatâ, acuminato-ovatâ, tenuiusculâ, striis incrementi confertis et lineis spiralibus granulatâ, parum nitente, fulvâ, fusco-strigatâ et irregulariter guttatâ; spirâ conicâ, acutâ; suturâ subcrenulatâ; anfractibus 5$\frac{1}{2}$, planiusculis, ultimo spiram paulo superante, convexiore, anticè descendente, basi rotundato; columellâ filari, leviter arcuatâ; aperturâ obliquâ, oblongo-ovali, intus submargaritaceâ; peristomate simplice, recto.*
Long. 31, diam. 14 mill.
Hab. in Andibus Novæ Granadæ.

26. Bulimus nigrolimbatus, Pfr. *B. testâ imperforatâ, ovatâ, tenui, rugosâ, striis confertis spiralibus subgranulatâ, parum nitidâ, olivaceo-fulvâ, strigis angustis castaneis variegatâ; spirâ conicâ, apice obtusâ; anfractibus 5, convexiusculis, ultimo spiram paulo superante, convexiore, basi rotundato; columellâ tenui, subcallosâ, subrecedente; aperturâ obliquâ, angulato-ovali, intus plicatâ, margaritaceâ; peristomate simplice, recto, obtuso, nigrolimbato.*
Long. 28, diam. 14 mill.
Hab. in Andibus Novæ Granadæ.

27. Bulimus dubius, Pfr. *B. testâ subperforatâ, oblongo-fusiformi, tenui, striatâ, nitidulâ, albo-lutescente, strigis spadiceis subundulatis ornatâ; spirâ gracili, elongato-conicâ, apice obtusulâ; suturâ submarginatâ; anfractibus 6, vix convexiusculis, ultimo spirâ paulo breviore, basi attenuato, subcompresso; columellâ subverticali, fere ad basin aperturæ elongatâ; aperturâ vix obliquâ, oblongâ, utrinque angustatâ, intus concolore; peristomate simplice, recto, margine dextro levissime arcuato, columellari breviter fornicatim reflexo, subappresso.*
Long. 28, diam. 10 mill.
Hab. in Andibus Novæ Granadæ.

28. Bulimus nubeculatus, Pfr. *B. testâ umbilicatâ, ovato-oblongâ, solidulâ, sublævigatâ, nitidâ, pallidè corneâ, saturatius nubeculatâ; spirâ conicâ, apice obtusulâ; suturâ profundâ; anfractibus 5$\frac{1}{2}$, convexis, ultimo $\frac{3}{7}$ longitudinis æquante, basi rotundato; columellâ verticali, ad basin aperturæ porrigente; aperturâ parum obliquâ, subellipticâ, basi subangulatâ, intus albidâ; peristomate simplice, recto, margine dextro perarcuato, columellari dilatato, fornicatim reflexo, libero.*
Long. 16, diam. 8$\frac{1}{2}$ mill.
Hab. in Americâ centrali (*Morelet.*)

29. **Bulimus Eganus**, Pfr. *B. testâ perforatâ, conico-ovatâ, tenui, lineis longitudinalibus et spiralibus sub lente obsoletè decussatâ, vix nitidulâ, quasi pruinosâ, fusco-corneâ; spirâ conicâ, apice obtusâ; suturâ mediocri; anfractibus* 5, *modice convexis, ultimo spiram paulo superante, medio obsoletè angulato, basi vix compressiusculo; aperturâ obliquâ, subellipticâ, basi subangulatâ; peristomate simplice, tenui, margine dextro repando, columellari sursum dilatato, reflexo, subappresso.*

Long. 13, diam. 6½ mill.

Hab. Ega Brasiliæ.

30. **Bulimus acalles**, Pfr. *B. testâ subperforatâ, ovato-conicâ, tenui, longitudinaliter confertim striatâ et distantius plicatâ, haud nitente, fulvo-griseâ; spirâ conicâ, obtusiusculâ, fulvescente; anfractibus* 4½, *vix convexiusculis, ultimo spiram superante, basi rotundato; columellâ vix arcuatâ, subrecedente; aperturâ obliquâ, ovali, intus fulvo-carneâ; peristomate simplice, recto, margine dextro arcuato, columellari supernè reflexo, subadnato.*

Long. 10, diam. 6 mill.

Hab. in Andibus Peruvianis.

31. **Bulimus Dillwynianus**, Pfr. *B. testâ perforatâ, ovato-oblongâ, solidâ, ruditer striatâ et irregulariter malleatâ, vix nitidulâ, carneâ, fusculo punctatâ et variegatâ; spirâ convexo-conicâ, apice obtusulâ; suturâ impressâ, marginatâ; anfractibus* 5, *convexiusculis, ultimo spiram paulo superante, basi attenuato, subcompresso; columellâ valide torto-plicatâ; aperturâ vix obliquâ, sinuoso-oblongâ; peristomate albo, expanso-reflexo, margine dextro leviter arcuato, columellari supernè dilatato, perforationem fere claudente.*

Long. 39, diam. 16½ mill.

Hab. in Andibus Novæ Granadæ.

32. **Achatina fulgurata**, Pfr. *A. testâ conico-ovatâ, tenui, striis longitudinalibus supernè confertis, in anfractu ultimo obsoletis, lineisque spiralibus granulatâ, corneo-luteâ, strigis latis fulguratis nigricantibus ornatâ; spirâ conicâ, obtusâ; anfractibus* 6½, *superis parum convexis, ultimo ventricoso, lineis paucis spiralibus infra suturam granulato, infra medium sublævigato; columellâ cærulescente, vix arcuatâ, supra basin aperturæ elliptico-semiovali abruptè truncatâ; peristomate simplice, recto.*

Long. 67, diam. 36 mill.

Hab. in Africâ occidentali.

33. **Achatina plicatula**, Pfr. *A. testâ oblongo-fusiformi, tenui, longitudinaliter confertim plicatulâ, lineis spiralibus obsoletè decussatâ, diaphanâ, parum nitente, fusco-carneâ; spirâ elongato-conicâ, apice obtusâ; suturâ marginatâ, minutè crenulatâ; anfractibus* 7, *vix convexiusculis, ultimo spiram æquante, paulo convexiore, basi attenuato; columellâ callosâ, vix arcuatâ, ad basin aperturæ*

semiovali, intus nitidissimæ, abruptè truncatâ; peristomate simplice, tenui.
Long. 60, diam. 25 mill.
Hab. in Andibus Novæ Granadæ.

34. Achatina albicans, Pfr. *A. testâ ovato-conicâ, tenui, longitudinaliter striatâ, lineis spiralibus infra medium anfractu ultimi obsoletis decussatulâ, diaphanâ, vix nitidâ, albicante; spirâ pyramidatâ, obtusiusculâ; suturâ submarginatâ; anfractibus* $6\frac{1}{2}$, *vix convexiusculis, ultimo spirâ paulo longiore, basi vix attenuato; columellâ verticali, substrictâ, supra basin aperturæ rhombeo-semiovalis horizontaliter et breviter truncatâ; peristomate simplice, recto, margine basali leviter arcuato.*
Long. 46, diam. 23 mill.
Hab. in Africâ occidentali.

35. Achatina inornata, Pfr. *A. testâ turrito-oblongâ, solidâ, confertim striatâ, pallide fulvâ, strigis saturatioribus variegatâ; spirâ turritâ, apice obtusiusculâ; suturâ lævi, confertissime crenulatâ; anfractibus* $7\frac{1}{2}$, *planiusculis, ultimo* $\frac{2}{5}$ *longitudinis subæquante, basi vix compresso, læviore; columellâ perarcuatâ, albo-callosâ, obliquè abruptè truncatâ; aperturâ sinuoso-semiovali, intus albâ; peristomate simplice, obtuso, margine dextro repando.*
Long. 28, diam. 11 mill.
Hab. in insulâ Ceylon.

36. Achatina violacea, Pfr. *A. testâ oblongo-conicâ, solidâ, striatâ, parum nitente, violaceâ; spirâ elongato-conicâ, sursum rubellâ, apice obtusâ; suturâ lævi, marginatâ; anfractibus 7, convexiusculis, ultimo* $\frac{2}{5}$ *longitudinis subæquante, infra medium angulato; columellâ subarcuatâ, tenuiter callosâ, supra basin aperturæ obliquæ, angulato-ovalis breviter truncatâ; peristomate simplice, recto.*
Long. 38, diam. 18 mill.
Hab. in Africâ occidentali.

37. Achatina (Glandina) attenuata, Pfr. *A. testâ oblongo-fusiformi, gracili, tenui, lævigatâ, nitidissimâ, fulvâ, strigis arcuatis saturatioribus pictâ; spirâ elongato-conicâ; apice obtusiusculâ; suturâ lævi, subsimplice; anfractibus 7, planiusculis, ultimo* $\frac{3}{5}$ *longitudinis subæquante, basi attenuato; columellâ subcallosâ, leviter arcuatâ, subtortâ, basi obliquè truncatâ; aperturâ angustissimâ, oblongâ, supernè acutâ, prope basin sinistrorsum dilatatâ; peristomate simplice, margine dextro repando.*
Long. 31, diam. 11 mill.
Hab. in Americâ centrali.

38. Helix subrugata, Pfr. *H. testâ subperforatâ, depresso-turbinatâ, distanter subrugatâ, pellucidâ, pallide corneâ; spirâ breviter conoideâ, acutiusculâ; anfractibus* $5\frac{1}{2}$–6, *planiusculis, ultimo carinato, basi convexiusculo, lævigato; aperturâ diagonali,*

subangulato-lunari; peristomate recto, acuto, margine columellari supernè vix reflexiusculo.

Diam. maj. 13, min. 11½, alt. 6½ mill.
Hab. ad Clarence River, New South Wales.

39. **Helix otostoma**, Pfr. *H. testâ angustè umbilicatâ, sublentiformi, solidâ, acutè carinatâ, striatâ et subtiliter granulatâ, olivaceo-nigricante vel castaneâ; spirâ subconoideo-convexâ, obtusâ; anfractibus 5, planiusculis, ultimo utrinque convexo, anticè subito deflexo, supra et infra carinam ascendentem profundè scrobiculato; aperturâ perobliquâ, subrhombeo-ensiformi, ringente; peristomate continuo, ad anfractum penultimum sinuoso, medio laminam longe intrantem emittente, margine supero dente conico obtusulo munito, basali medio subangulatim descendente, parte sinistrâ dentem validum, compressum, parte dextrâ dentem leviter et irregulariter bifurcatum gerente.*

Diam. maj. 31, min. 26, alt. 13 mill.
Hab. in Andibus Novæ Granadæ.

40. **Helix annulifera**, Pfr. *H. testâ umbilicatâ, depressâ, lentiformi, carinatâ, solidâ, striatâ et minutè granulatâ, saturate castaneâ, ad carinam acutam latè albo-fasciatâ; spirâ breviter conoideâ, obtusâ; anfractibus 5, planiusculis, ultimo anticè breviter deflexo, basi convexo, anticè strangulato et scrobiculato; umbilico mediocri; aperturâ subhorizontali, irregulari, ringente; peristomate subincrassato, albo, continuo, margine parietali perarcuato, laminam elongatam intrantem emittente, in umbilicum descendente et cum basali parallelo juncto; margine basali usque ad medium substricto, acutè dentato, tum angulatim descendente, latè reflexo, laminâ linguæformi latâ munito, ad carinam ascendente, a dextro expanso canali angusto, supernè in annulum apertum desinente separato.*

Diam. maj. 34, min. 29, alt. 13 mill.
Hab. Panama.

This is the shell figured by Prof. E. Forbes in Trans. Zool. Soc. 1850, p. 53. Moll. t. 9. f. 4, under the name of *H. labyrinthus* var. *sipunculata*.

41. **Helix Gaskoini**, Pfr. *H. testâ umbilicatâ, turbinato-depressâ, solidâ, obliquè rugato-plicatâ, nitidâ, albâ; spirâ conoideo-convexâ, obtusâ; anfractibus 5½, convexis, ultimo anticè deflexo, medio carinato, basi convexiusculo, sublævigato; aperturâ perobliquâ, lanceolato-ovali; peristomate subincrassato, marginibus callo umbilicum mediocrem, pervium semioccultante junctis, supero breviter expanso, basali reflexo.*

Diam. maj. 31, min. 27, alt. 15 mill.
Hab. in insulâ Haiti (*Sallé*).

42. **Bulimus Tasmanicus**, Pfr. *B. testâ imperforatâ, ovato-conicâ, solidulâ, rugoso-striatâ, vix nitidâ, albidâ; spirâ conicâ, acutiusculâ, apice subcrubescente; anfractibus 5, vix convexiusculis, ultimo*

spiram paulo superante, basi rotundato; columellâ filari, subrecedente; aperturâ obliquâ, ovali, intus pallide fulvescente; peristomate simplice, recto, margine dextro leviter arcuato, columellari vix reflexiusculo, adnato.

Long. 25, diam. 11 mill.

Hab. Van Diemen's Land.

43. **BULIMUS BELCHERI**, Pfr. *B. testâ imperforatâ, ovato-oblongâ, solidâ, glabriusculâ, fulvido-albidâ, castaneo-fasciatâ; spirâ convexo-conicâ, obtusâ; anfractibus 5, convexiusculis, ultimo spirâ vix breviore, ad suturam et basin latè, medio angustè fasciato; columellâ planâ, substrictâ, supra basin recedente; aperturâ obliquâ, truncato-oblongâ; peristomate subincrassato, nigricante, reflexiusculo.*

Long. 40, diam. 23½ mill.

Hab. in insulis Philippinis.

44. **BULIMUS NEWCOMBIANUS**, Pfr. *B. testâ sinistrorsâ vix subperforatâ, ovato-turritâ, tenuiusculâ, plicis validis longitudinalibus sulcisque spiralibus sculptâ, olivaceo-fuscâ; spirâ turritâ, gracili, obtusulâ; anfractibus 5½, summis planis, sequentibus convexiusculis, ultimo $\frac{3}{7}$ longitudinis subæquante, medio inflato; columellâ callosâ, substrictè recedente; peristomate recto, acuto, margine externo leviter arcuato, subrepando, columellari reflexo, subappresso.*

Long. 14½, diam. 5½ mill.

Hab. in insulis Sandwich.

This species is nearly allied to *Achatinella plicata*, Gould, which must be rather referred to the genus *Bulimus*, in which there being already a *Bulimus plicatus*, I have marked it in Mr. Cuming's Museum with the name of *Bulimus liratus*.

45. **BULIMUS PORPHYROSTOMUS**, Pfr. *B. testâ imperforatâ, ovato-conicâ, solidâ, rugoso-plicatâ, pallide carneâ, epidermide deciduâ fusco-olivaceâ indutâ; spirâ conicâ, obtusiusculâ; anfractibus 6, vix convexiusculis, ultimo spiram æquante, basi subattenuato; columellâ oblongè plicatâ, albâ; aperturâ verticali, angustâ, oblongâ, obliquè recedente, intus saturatè purpureo-castaneâ, nitidâ; peristomate incrassato, recto, albo, marginibus callo crasso, albo, medio tuberculifero junctis.*

Long. 62, diam. 28 mill.

Locality unknown.

46. **BULIMUS MICRODON**, Pfr. *B. testâ breviter rimatâ, subfusiformi-turritâ, obliquè costulato-striatâ, albidâ, strigis sparsis corneis, lacteo-marginatis ornatâ; spirâ elongatâ, apice acutiusculâ; anfractibus* 12, *vix convexiusculis, ultimo $\frac{2}{9}$ longitudinis subæquante, infra medium filoso-unicarinato; columellâ supernè plicâ dentiformi munitâ; aperturâ vix obliquâ, truncato-ovali; peristomate simplice, margine dextro breviter expanso, columellari dilatato, angulatim reflexo.*

Long. 15, diam. 4 mill.

Hab. in insulâ Jamaica.

47. **Achatina Newcombi**, Pfr. *A. testâ turritâ, solidâ, longitudinaliter rugoso-striatâ, cingulis obtusè elevatis sculptâ, castaneâ; spirâ elongatâ, sursum in conum convexiusculum, acuminatum attenuatâ; anfractibus* 9, *planiusculis, ultimo* $\frac{2}{7}$ *longitudinis subæquante, infra medium angulato, fasciâ pallide cincto, basi nigro; columellâ lamellâ angustâ, tortâ, albâ munitâ, basi subtruncatâ, aperturâ obliquâ, subrhombeâ; peristomate simplice, recto.*
Long. 71, diam. 19 mill.
Hab. in insulis Sandwich (*Newcomb*).

48. **Achatinella melampoides**, Pfr. *A. testâ oblongâ, solidâ, ruguloso-striatâ, vix nitidulâ, saturatè fuscâ; spirâ convexo-conicâ, acutiusculâ; suturâ impressâ, submarginatâ; anfractibus* 6, *vix convexiusculis, ultimo spirâ paulo breviore, basi rotundato; columellâ medio acutè tuberculatâ; aperturâ verticali, sinuato-ovali; peristomate recto, acuto, intus labiato, margine columellari calloso, albo, appressè reflexo.*
Long. 13, diam. $5\frac{2}{3}$ mill.
Hab. in insulis Sandwich.

49. **Partula nodosa**, Pfr. *P. testâ perforatâ, conico-ovatâ, solidulâ, obsoletè decussatulâ, castaneâ, ad suturam fasciâ latâ albâ et interdum nonnullis pallidis ornatâ; spirâ conicâ, acutâ; anfractibus* $5\frac{1}{2}$, *planiusculis, ultimo spiram subæquante; columellâ supernè profundè plicatâ, tum subnodosâ; aperturâ subverticali, oblongâ, angustâ; peristomate extus vix expanso, intus callo acutè prominente munito, marginibus subparallelis, dextro strictiusculo.*
Long. 16, diam. 8 mill.
Hab. in insulis Tahiti et Navigatorum.

50. **Partula filosa**, Pfr. *P. testâ perforatâ, conico-ovatâ, solidâ, lineis impressis spiralibus, confertis sculptâ, haud nitente, castaneâ, strigis filaribus cinereis ornatâ; spirâ conicâ, obtusiusculâ; anfractibus* 5, *planiusculis, ultimo spiram æquante, convexiore; columellâ supernè vix plicatâ; aperturâ parum obliquâ, subtriangulari-semiovali; peristomate expansiusculo, intus callo crasso prominente munito.*
Long. 16, diam. $8\frac{1}{2}$ mill.
Hab. in insulis Navigatorum.

51. **Helix glabriuscula**, Pfr. *H. testâ perforatâ, conoideo-semiglobosâ, tenui, lævigatâ, pellucidâ, nitente, lutescente, rufo angulato-lineatâ; spirâ convexo-conoideâ, acutiusculâ; anfractibus* $5\frac{1}{2}$, *convexiusculis, ultimo non descendente, basi planiusculo; aperturâ obliquâ, subdepressâ, lunari; peristomate simplice, recto, margine columellari declivi, supernè vix reflexiusculo.*
Diam. maj. $3\frac{1}{2}$, min. 3, alt. 2 mill.
Hab. in Novâ Seelandiâ (*Strange*).

52. HELIX SOLIDA, Pfr. *H. testâ imperforatâ, conoideo-semiglobosâ, crassâ, striatâ, fulvescente, epidermide tenui, fuscâ, non nitente obductâ; spirâ convexâ, obtusâ, apice rubellâ; anfractibus 5, convexiusculis, ultimo convexiore, dimidium altitudinis formante, medio obsoletè angulato, anticè vix descendente; columellâ strictâ, declivi, latâ, albidâ; aperturâ obliquâ, subtetragono-lunari, intus albâ; peristomate subincrassato, vix expansiusculo, fusco-limbato.*
Diam. maj. 37, min. 33, alt. 27 mill.
Hab. prope Nanjan, insulæ Mindoro.

53. HELIX OBLITA, Pfr. *H. testâ perforatâ, sublenticulari, tenuissimâ, supernè confertim arcuato-plicatâ, pellucidè, pallidè corneâ; spirâ depresso-turbinatâ, acutiusculâ; anfractibus 6, vix convexiusculis, ultimo non descendente, medio obtusè denticulato-carinato, basi convexiore, radiatim striato; aperturâ parum obliquâ, lunari; peristomate simplice, tenui, recto, margine basali leviter arcuato, ad perforationem breviter reflexo.*
Diam. maj. 23, min. 20, alt. 11½ mill.
Hab. in Indiâ.

54. HELIX VILIS, Pfr. *H. testâ umbilicatâ, depresso-globosâ, tenuiusculâ, granulato-striatâ, corneâ; spirâ breviter conoideâ, acutiusculâ; anfractibus 5, vix convexiusculis, celeriter accrescentibus, ultimo anticè deflexo, peripheriâ obsoletè subangulato, basi convexo; umbilico angusto, non pervio; aperturâ diagonali, fere circulari; peristomate intus valide labiato, marginibus approximatis, columellari supernè dilatato, patente.*
Diam. maj. 11, min. 9, alt. 6 mill.
Hab. —— ?

September 9, 1851.

Sir Roderick Impey Murchison, G.C. St.S., F.R.S. &c.,
in the Chair.

Professor OWEN read an elaborate paper "On the Skeleton of *Troglodytes Gorilla*," which will be published in the Transactions of the Society.

November 11, 1851.

W. J. Broderip, Esq., Vice-President, in the Chair.

Professor Owen read a paper "On the Capacity of the Cranium in the Negro, the Orang, and the Gorilla," which will be published in the Transactions of the Society for the present year.

The following papers were also read:—

1. Descriptions of sixteen new species of Rissoina, a genus of Marine Gasteropodous Mollusks, from the Cumingian Collection. By Arthur Adams, Surgeon R.N., F.L.S. etc.

Rissoina, D'Orbigny.

About eighteen species of this genus, as restricted by M. d'Orbigny, have been already described, inhabiting various countries. Those here named are a portion of the discoveries made by Mr. Cuming among the islands of the Philippine Archipelago, and are many of them of considerable size; and it is in these that the peculiarity of operculum is best seen.

The process of the semiovate, horny, subspiral operculum, first pointed out by D'Orbigny, is sometimes very long and slender, and very much resembles in appearance the analogous appendage of the operculum of *Nerita* and *Neritina*. The genus *Jeffreysia* of Alder, or *Rissoella* of Gray, has a similar appendage, but the position of the eyes, and the peculiar structure of the fore part of the head, place the latter genus in a different family, viz. *Pyramidellidæ*. The *Rissoinæ* may also readily be known from the neighbouring genus *Rissoa*, by the aperture being somewhat channeled anteriorly, whereas in *Rissoa* it is continuous and entire. The nature of the animal resembles *Rissoa*, according to D'Orbigny, who places the genus among the *Melaniadæ*.

1. Rissoina plicata, A. Adams. *R. testâ turrito-subulatâ, subpyramidali, albâ, sordidâ, anfractibus octo, planis, longitudinaliter valdè plicatâ, transversim striatâ, plicis elevatis, posticè subangulatis, interstitiis transversim striatis; aperturâ semiovatâ, anticè subcanaliculatâ; labro anticè subdilatato, margine incrassato.*

Hab. Isle of Masbate. Mus. Cuming.

2. Rissoina fasciata, A. Adams. *R. testâ subulato-turritâ, solidâ, sordidè albâ, rufo-fusco fasciatâ, anfractibus octo, convexiusculis, transversim tenuissimè (sub lente) striatâ, longitudinaliter plicatâ, plicis obliquis, æqualibus, subdistantibus; aperturâ semiovatâ, anticè subcanaliculatâ; labro subdilatato.*

Hab. Sydney, under stones, low water (*Mr. Strange*). Mus. Cuming.

3. Rissoina scalariana, A. Adams. *R. testâ subulato-turritâ, albâ, solidâ, anfractibus octo, convexiusculis, transversim tenuissimè striatâ, longitudinaliter costatâ, costis elevatis, æqualibus, subdistantibus, anfractu ùltimo anticè callo circumdato; aperturâ semiovali, anticè subcanaliculatâ; labio anticè callo desinente; labro flexuoso, anticè subproducto.*
Hab. Isle of Burias, Philippines. Mus. Cuming.

4. Rissoina pyramidalis, A. Adams. *R. testâ turrito-pyramidali, sordidè albâ, solidâ, anfractibus octo, planiusculis, transversim tenuiter striatâ, longitudinaliter plicatâ, plicis obliquis, confertis, subelevatis, interstitiis transversim striatis; aperturâ semiovatâ, anticè subcanaliculatâ; labio anticè callo desinente; labro subdilatato, incrassato.*
Hab. Isle of Baclayon. Mus. Cuming.

5. Rissoina d'Orbignyi, A. Adams. *R. testâ subulato-turritâ, albidâ, subpellucidâ; anfractibus decem, convexiusculis, supremis costellatis, lineolis elevatis, transversis, et longitudinalibus, decussatâ; aperturâ semiovatâ, anticè subcanaliculatâ; labio anticè subcalloso; labro dilatato, subreflexo, margine flexuoso, subacuto.*
Hab. Isle of Luzon. Mus. Cuming.

6. Rissoina clathrata, A. Adams. *R. testâ subulato-turritâ, albâ, solidâ, anfractibus convexiusculis, lineis elevatis, longitudinalibus et transversis decussatis, valde clathratâ, anfractu ultimo anticè sulco transverso instructo; aperturâ semiovatâ, anticè subcanaliculatâ; labro flexuoso, anticè producto, margine extus varicoso.*
Hab. Isle of Bohol. Mus. Cuming.

7. Rissoina micans, A. Adams. *R. testâ turrito-subulatâ, albâ, solidâ, nitidâ, anfractibus convexis, novem, longitudinaliter plicatâ, plicis elevatis, subdistantibus, æqualibus, interstitiis transversim striatis, anfractu ultimo anticè valde sulcato; aperturâ semiovatâ, anticè subcanaliculatâ; labro flexuoso, anticè subproducto, extus varicoso.*
Hab. Island of Mindanao. Mus. Cuming.

8. Rissoina nivea, A. Adams. *R. testâ parvâ, subulato-turritâ, subpellucidâ, niveâ, subnitidâ, anfractibus convexiusculis, longitudinaliter plicatâ, plicis obliquis, anticè subobsoletis; aperturâ semiovatâ, anticè subcanaliculatâ; labro subdilatato, extus incrassato.*
Hab. Port Lincoln, Australia. Mus. Cuming.

9. Rissoina monilis, A. Adams. *R. testâ turrito-subulatâ, solidâ, fulvâ, anfractibus septem, planis, granulis moniliformibus ad suturas, longitudinaliter plicatâ, plicis confertis, angustis, æqualibus, interstitiis punctato-clathratis; aperturâ*

semiovatâ, anticè subcanaliculatâ; labio subincrassato; labro extus valde varicoso, margine transversim striato.
Hab. Philippine islands. Mus. Cuming.

10. Rissoina bellula, A. Adams. *R. testâ subulato-turritâ, albâ, semipellucidâ; anfractibus octo, convexiusculis, cingillis transversis, elevatis, granulosis, interstitiis longitudinaliter concinnè clathratis, ornatâ; anfractu ultimo sulco profundo instructo; aperturâ semiovatâ, anticè subcanaliculatâ; labio anticè callo terminato; labro flexuoso, margine extus valde varicoso.*
Hab. Isle of Calapan. Mus. Cuming.

11. Rissoina striolata, A. Adams. *R. testâ subulato-turritâ, albâ, tenui, pellucidâ; anfractibus undecim, supremis longitudinaliter plicatis, planulatis, prope suturas subangulatis; transversim striatâ, striolis confertis concentricis; aperturâ semiovatâ, anticè subcanaliculatâ; labio posticè incrassato, anticè callo desinente; labro dilatato, margine incrassato, subreflexo.*
Hab. Baclayon island, Philippines. Mus. Cuming.

12. Rissoina costata, A. Adams. *R. testâ subulato-turritâ, albâ, opacâ, solidâ, anfractibus septem, convexiusculis, longitudinaliter costatâ, costis crassis, elevatis, posticè subangulatis, anfractu ultimo anticè sulco transverso valido instructo; aperturâ semiovatâ, anticè subcanaliculatâ; labio anticè tuberculo terminato; labro subdilatato, margine varicoso, flexuoso.*
Hab. Cobiga, Peru. Mus. Cuming.

13. Rissoina nitida, A. Adams. *R. testâ turrito-subulatâ, albâ, solidâ, nitidâ, anfractibus novem, convexiusculis, longitudinaliter costatâ, transversim liratâ, liris ad costas nodulosis; aperturâ semiovatâ, anticè subcanaliculatâ; labio anticè callo desinente; labro extus incrassato, margine subacuto, anticè diaphano producto.*
Hab. Isle of Camaguing. Mus. Cuming.

14. Rissoina concinna, A. Adams. *R. testâ subulato-turritâ, albâ, solidâ, nitidâ, anfractibus septem, planiusculis, longitudinaliter plicatâ, plicis anticè evanidis, transversim striatâ, striis creberrimis, confertis; aperturâ semiovatâ, anticè subcanaliculatâ; labio calloso; labro margine valde incrassato et rotundato.*
Hab. Cagayan, Philippines. Mus. Cuming.

15. Rissoina nodicincta, A. Adams. *R. testâ subulato-turritâ, albâ, solidâ, anfractibus* 10–12, *convexis, longitudinaliter plicatâ, plicis angustis, distantibus, transversim tenuissimè striatâ, in medio anfractuum cingulâ elevatâ ad plicas nodosâ, ornatâ, suturâ nodulis moniliformibus cinctâ; aperturâ semiovatâ,*

anticè subcanaliculatâ; labio anticè callo terminato; labro dilatato, extus incrassato, margine flexuoso.

Hab. Isle of Capul, Philippines. Mus. Cuming.

16. **Rissoina cœlata**, A. Adams. *R. testâ subulato-turritâ, albidâ, solidâ; anfractibus octo, convexiusculis, supremis clathratis, ultimo cingulis elevatis, æqualibus, subdistantibus, transversis, interstitiis lineis elevatis, longitudinalibus et transversis, decussatim ornato; aperturâ semiellipticâ, anticè subcanaliculatâ; labio calloso; labro anticè dilatato, margine incrassato, subreflexo.*

Hab. Siquijor. Mus. Cuming.

The two following species are true *Rissoæ*, characterized by the simple aperture, which is not channeled in front, and by the absence of the calcareous appendage to the operculum. Many species of small shells have been inaccurately referred to *Rissoa*, some of which belong, however, to entirely different families.

Rissoa bella, A. Adams. *R. testâ turrito-subulatâ, albâ, solidâ; anfractibus quinque, planiusculis; spirâ apice obtuso, lineis transversis, elevatis, concentricis, confertis, ornatâ; aperturâ ovali, anticè integrâ; labio subcalloso; labro subdilatato, extus marginato, margine flexuoso.*

Hab. Philippine islands. Mus. Cuming.

Rissoa elegans, A. Adams. *R. testâ subulato-turritâ, albâ, semipellucidâ; anfractibus 7, convexiusculis; suturâ canaliculatâ, lineis elevatis transversis concentricis et longitudinalibus concinnè decussatâ; aperturâ ovali, subproductâ, anticè integrâ; labio calloso; labro anticè dilatato, extus varicoso, margine acuto, subreflexo.*

Hab. Philippines. Mus. Cuming.

2. DESCRIPTIONS OF SEVERAL NEW SPECIES OF MUREX, RISSOINA, PLANAXIS, AND EULIMA, FROM THE CUMINGIAN COLLECTION. BY ARTHUR ADAMS, F.L.S. ETC.

1. **Murex iostomus**, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ; anfractibus planulatis, squamulosis, spinis acutis, in serie elevato disposito ornatis, cinereâ; anfractu ultimo spinis elevatis, bifidis, in seriebus quatuor dispositis instructo, varicibus sex, longitudinalibus; aperturâ ovato-oblongâ, intus violaceâ; labio subtuberculari; labro fimbriato.*

Hab. Philippines. Mus. Cuming.

2. **Murex solidus**, A. Adams. *M. testâ solidâ, profundè umbilicatâ, albâ; spirâ brevi, obtusâ; anfractibus planulatis, longitudinaliter plicato-varicosis (varicibus in anfractu ultimo 7), transversim liratis; liris, ad plicas, incrassatis, interstitiis lon-*

gitudinaliter cancellatis; aperturâ subrotundatâ; canali recto, aperturam æquante; labro simplici, intus lævi.
Hab. Ichiboe, West Africa. Mus. Cuming.

3. **Murex euracanthus**, A. Adams. *M. testâ ovato-fusiformi, umbilicatâ; spirâ acuminatâ; anfractibus planis, serie tuberculorum spiniformium in medio dorsi, albâ, spinis et parte anticâ rubro tinctis; anfractu ultimo liris squamulosis, et spinis tubulosis, longis, in seriebus duobus dispositis, ornato; aperturâ ovatâ, oblongâ; labio anticè producto et tuberculato; canali brevi, subrecurvâ.*
Hab. ——? Mus. Cuming.

Figured by Mr. Reeve as *M. noduliferus*, which is very different from the present species.

4. **Murex exasperatus**, A. Adams. *M. testâ ovato-fusiformi, umbilicatâ, albâ, nitidâ; spirâ acuminatâ; anfractibus angulatis, in medio longitudinaliter plicato-varicosâ, transversim liratâ; liris subspinulosis ad plicas; aperturâ ovatâ; canali mediocri, subincurvato; labro intus sulcato.*
Hab. ——? Mus. Cuming.

5. **Murex lignarius**, A. Adams. *M. testâ ovato-fusiformi, subumbilicatâ; spirâ acuminatâ, rufo-fuscâ; anfractibus supernè excavatis, in medio liris duabus, elevatis, nodulosis; transversim liratâ, liris elevatis rugulosis, inæqualibus, longitudinaliter trivaricosâ, varicibus, in medio, spinis duabus, elevatis, fimbriatis; aperturâ ovato-rotundatâ, intus albâ; canali aperturam æquante, subrecurvato.*
Hab. West Africa. Mus. Cuming.

6. **Murex fusiformis**, A. Adams. *M. testâ fusiformi, cinereâ, fulvo variegatâ; spirâ productâ; anfractibus rotundis; varicibus longitudinalibus, subelevatis, nodospinosis, et lineis elevatis, transversis, latè clathratâ; aperturâ oblongo-ovatâ; canali aperturam æquante, recto; labro extus varicoso, intus sulcato.*
Hab. Africa. Mus. Cuming.

7. **Murex spinosus**, A. Adams. *M. testâ ovatâ, umbilicatâ, albâ, lineis rufo-fuscis transversis ornatâ; anfractibus rotundis, transversim liratâ; varicibus longitudinalibus regularibus* (6 *in anfractu ultimo*), *spinis longis, rectis, acutis, armatis; canali subrecurvato, aperturam æquante; aperturâ ovato-rotundatâ.*
Hab. ——? Mus. Cuming.

8. **Murex serotinus**, A. Adams. *M. testâ ovato-fusiformi; spirâ peracutâ, serotinâ, longitudinaliter plicatâ, transversim liratâ; liris, ad plicas, nodulosis; aperturâ ovatâ, oblongâ; labio anticè bituberculato; labro extus incrassato, margine dentato, intus lirato; canali mediocri, subrecurvato.*
Hab. ——? Mus. Cuming.

9. **Murex bifasciatus**, A. Adams. *M. testâ ventricosâ, profundè umbilicatâ; spirâ brevi; anfractibus rotundatis; albâ; anfractu ultimo fasciis duabus, latis, rufo-fuscis ornato, transversim elevatè liratâ, liris rugosis; longitudinaliter varicibus æqualibus* (*in anfractu ultimo* 9) *subelevatis, rotundatis, fimbriatis; aperturâ ovato-rotundatâ; labio subproducto, fulvo; canali aperturâ breviore, valde recurvato.*
Hab. Senegal. Mus. Cuming.

10. **Murex crassus**, A. Adams. *M. testâ ovato-fusiformi, umbilicatâ, solidâ, fulvâ; spirâ mediocri; anfractibus rotundatis, supernè angulatis, obsoletè transversim liratâ, varicibus crassis, distantibus, irregularibus* (4 *in ultimo anfractu*), *ornatâ; aperturâ ovatâ, intus violaceâ; labro extus incrassato, intus dentato.*
Hab. China. Mus. Cuming.

11. **Murex Pagodus**, A. Adams. *M. testâ ovato-fusiformi; spirâ acuminatâ, lævi, albâ, anticè maculis fuscis sparsim pictâ; anfractibus septem, concavis, seriebus spinarum ornatis, spinis regularibus, tubulosis, recurvatis, marginibus fimbriatis; aperturâ subrotundatâ; columellâ lævi; canali recurvato, ad dextram inclinato, aperturam æquante.*
Hab. ——? Mus. Cuming.

12. **Murex excavatus**, A. Adams. *M. testâ ovato-fusiformi, subumbilicatâ, albâ, solidâ; spirâ acuminatâ; anfractibus concavis* (*quasi excavatis*) *ad partem anticam; in medio angulatis, longitudinaliter plicatâ, transversim liratâ, liris ad plicas nodulosis; anfractu ultimo liris duabus elevatis ornato; aperturâ semiovali; canali mediocri, vix recto; labro intus sulcato.*
Hab. ——? Mus. Cuming.

13. **Murex inornatus**, A. Adams. *M. testâ fusiformi, valde umbilicatâ; spirâ acuminatâ; anfractibus rotundis, albidâ, liris transversis, elevatis, squamulosis, et varicibus longitudinalibus, rotundatis* (*in anfractu ultimo* 7), *ornatâ; aperturâ ovali; canali subrecurvato, aperturam æquante; labro extus fimbriato, intus lirato.*
Hab. ——? Mus. Cuming.

14. **Murex obeliscus**, A. Adams. *M. testâ ovato-pyramidali, subtrigonali; spirâ elevatâ; anfractibus planis, apice obtuso, albâ, seriebus transversis macularum rufo-fuscarum ornatâ, transversim liratâ, liris subgranosis, varicibus tribus, longitudinalibus, varice intermedio, brevi, triangulari, ad partem posticam instructâ; aperturâ ovatâ; canali valde recurvato.*
Hab. ——? Mus. Cuming.

15. **Murex lyratus**, A. Adams. *M. testâ ovato-fusiformi, subumbilicatâ; spirâ acuminatâ; anfractibus planiusculis, albâ, varicibus rufo-fuscis ornatâ, transversim liratâ; liris trans-*

versis, angustis, asperulatis, varicibus longitudinalibus, rotundatis, subfimbriatis (7 *in ultimo anfractu*)*; apertura subrotundata, intus alba; columella posticè callosa; canali brevi, recto, vix clauso; labro intus lirato.*

Hab. ——? Mus. Cuming.

16. **Murex pulcher**, A. Adams. *M. testa ovato-fusiformi, subtrigonali; spira acuminata; anfractibus rotundatis, nodulosis, varicibus tribus subspinosis; liris transversis, elevatis, anfractu ultimo varicibus prominentibus, subspinosis, ornato; varicibus anticè fimbriatis et spinosis; apertura ovato-rotunda; labio tuberculato; labro intus crenato-lirato, canali perlongo, subrecurvo, vix clauso.*

Hab. St. Croix, 60 fathoms; *M. Sueuson.* Mus. Cuming.

17. **Murex Singaporensis**, A. Adams. *M. testa ovato-fusiformi; spira acuminata; anfractibus rotundatis; fulva, longitudinaliter plicata, plicis rotundis, transversim lirata, liris asperulatis, squamulis aculeatis obsitis; apertura ovata, oblonga, intus livida; canali aperturam æquante, subreflexo; labro intus dentato.*

Hab. Singapore. Mus. Cuming.

18. **Murex niveus**, A. Adams. *M. testa ovata, umbilicata, nivea; spira brevi, acuminata; anfractibus rotundatis; longitudinaliter plicata, plicis rotundis, prominentibus, crassis* (8–10 *in anfractu ultimo*)*, transversim lirata, liris squamulis, confertis, longitudinalibus, obsitis; apertura ovata, oblonga; canali brevi, subrecta; labro intus lirato.*

Hab. ——? Mus. Cuming.

19. **Murex Cumingii**, A. Adams. *M. testa oblongo-fusiformi, trivaricosa; spira subproducta, anfractibus rotundatis, pallidè rufo-fusca, fasciis tribus, transversis, rufo-fuscis, ornata; varicibus longitudinalibus, tribus, continuis, obtusis, liris intermediis nodosis, liris transversis inæqualibus, rufo-fusco articulatis, instructa; apertura ovali, labro intus crenato-lirato extus fimbriato, fimbriis non squamulosis, canali clauso, anticè recurvato.*

Hab. Philippines. Mus. Cuming.

Somewhat closely allied to *M. triquetra* of Born.

20. **Mitra Marquesana**, A. Adams. *M. testa ovato-fusiformi, anfractibus planis, spira acuta, carneola, maculis albis et lineis undulatis, longitudinalibus rufo-fuscis, eleganter picta, longitudinaliter substriata, transversim lirata, interstitiis valde punctatis; apertura spiram majorem æquante, columella plicis quinque instructa, labro margine crenato.*

Hab. Marquesas. Mus. Cuming.

Markings very similar to those of *M. serpentina*, Lamk. The *Mitra* figured in Mr. Reeve's Monograph, as *M. nebulosa* of Swainson, is quite different from that species, and requires therefore a change of name; I have called it *M. propinqua*.

21. **Ancillaria lineolata**, A. Adams. *A. testâ ovato-fusiformi; spirâ brevi, subacutâ, suturis albis, pallidè fulvâ, lineis longitudinalibus, confertis, fuscis, ornatâ; anfractu ultimo cingulâ elevatâ transversâ, ad marginem labri, in dente acuto desinente; aperturâ oblongâ; columellâ tortuosâ, albâ, anticè plicis obliquis instructâ.*

Hab. ——? Mus. Cuming.

A very pretty species, distinguished by the fine longitudinal brown lines.

22. **Planaxis obscura**, A. Adams. *P. testâ ovato-conicâ, epidermide fusco obtectâ; fusco-rufescente; anfractibus planis, suturâ distinctâ, transversim valde sulcatâ, interstitiis longitudinaliter striatis; aperturâ ovato-oblongâ, columellâ longitudinaliter sulcatâ; labro subdilatato, margine acuto, intus valde lirato.*

Hab. ——? Mus. Cuming.

23. **Planaxis fulva**, A. Adams. *P. testâ ovato-conicâ, fulvâ; spirâ acuminatâ, apice acuto, anfractibus planis, ultimo angulato, transversim tenuiter striatâ; aperturâ ovato-oblongâ; columellâ incurvatâ, anticè callosâ; labro margine subdilatato, extus incrassato, intus lirato.*

Hab. Swan River. Mus. Cuming.

Allied to *P. mollis*, Sowerby, but the last whorl is angulated.

24. **Planaxis zonata**, A. Adams. *P. testâ ovato-conicâ, rimatâ, glabrâ, nitidâ; spirâ acuminatâ; anfractibus convexiusculis, pallidè lutescente, zonulâ transversâ rufo-fuscâ cinctâ ad suturas, et, in anfractu ultimo, fasciis duabus transversis ornatâ, transversim tenuissimè striatâ; aperturâ ovatâ; columellâ incurvatâ; labro subdilatato, intus lirato.*

Hab. Calapan, Philippines. Mus. Cuming.

25. **Planaxis cingulata**, A. Adams. *P. testâ ovato-conicâ, solidâ, rimatâ; spirâ acutâ; anfractibus convexiusculis, fulvâ, zonulis rufo-fuscis transversis, prope suturas, duplicatis, ornatâ, longitudinaliter tenuissimè striatâ, transversim valde sulcatâ; aperturâ ovato-oblongâ, coarctatâ; columellâ incurvatâ; labro extus incrassato, intus dentato-lirato.*

Hab. China Seas. Mus. Cuming.

Species collected by me during the voyage of H.M.S. Samarang.

26. **Planaxis succincta**, A. Adams. *P. testâ ovato-conicâ, spirâ acuminatâ, apice acuto, anfractibus convexiusculis, pallidè fuscâ, fasciis linearibus, transversis, multis, rufo-fuscis, ornatâ, longitudinaliter substriatâ; anfractu ultimo transversim sulcato; aperturâ ovato-oblongâ; columellâ fuscâ; labro intus sulcato.*

Hab. Peru, and the West Indies. Mus. Cuming.

Allied to *P. lineata* of Montagu, but of larger growth and different form.

27. **Planaxis buccinea**, A. Adams. *P. testâ ovatâ; spirâ brevi, acutâ, apice obtuso, rubro; anfractibus planis, plicato-granulosis; nigro-fuscâ, cingillis articulatis, transversis, ornatâ; longitudinaliter substriatâ, transversim valde sulcatâ; aperturâ ovato-oblongâ; columellâ excavatâ; labro intus creno-plicato, extus incrassato, varicoso.*
Hab. West Indies. Mus. Cuming.

28. **Planaxis labiosa**, A. Adams. *P. testâ ovato-conicâ, spirâ acutâ, anfractibus convexiusculis, atro-purpureâ, fasciis pallidis* (5–6) *transversis, in anfractu ultimo; transversim striatâ; aperturâ ovato-oblongâ; columellâ incurvatâ et dilatatâ; labro dilatato, margine reflexo et incrassato, intus lirato.*
Hab. Sandwich Islands. Mus. Cuming.

29. **Lagena Californica**, A. Adams. *L. testâ solidâ, ovato-fusiformi; spirâ, in medio, tumidâ, anfractibus planiusculis, infernè nodospinosis, albâ, cingulis transversis, elevatis, rufo-fuscis articulatis ornatâ, interstitiis obscuris, fuscis; anfractu ultimo longitudinaliter plicato, seriebus duobus tuberculorum subspinosorum instructo; aperturâ ovato-oblongâ; columellâ carneolâ, plicis quatuor, albis, obliquis; labro intus lirato.*
Hab. California. Mus. Cuming.
Allied to *L. picta*, Lamk., but of different form and markings.

30. **Nassa Australis**, A. Adams. *N. testâ ovato-fusiformi; spirâ acuminatâ, pallidè olivaceâ, fasciis tribus, transversis, fuscis, ornatâ, longitudinaliter valde plicatâ, interstitiis valde transversim sulcatis; anfractu ultimo anticè liris transversis subgranosis, posticè, prope suturam, tuberculis moniliformibus ornato; aperturâ ovato-rotundatâ, intus fuscâ, et dentato-liratâ; labro margine albo, posticè valde inflexo et dentato.*
Hab. Australia. Mus. Cuming.

November 25, 1851.

W. J. Broderip, Esq., F.R.S., Vice-President, in the Chair.

The following papers were read:—

1. On a species of Æquorea inhabiting the British Seas. By Prof. Edward Forbes, F.R.S.

(Radiata, Pl. IV.)

In the first volume of the 'Wernerian Memoirs' a "*Medusa æquorea*" is mentioned by Prof. Jameson as an inhabitant of the seas of the north of Scotland, and in the 'History of British Animals' by Dr. Fleming, the name "*Geryonia æquorea*" is used to designate it. As no

Proc Z.S. [illegible] V.

E. Forbes, del. W. H. Baily, lith.

Printed by Hullmandel & Walton.

ÆQUOREA FORSKALEA Peron

[illegible]

description or figure was ever published of this creature, and as the diagnosis of the "*Medusa*" to which Linnæus applied the name of "*æquorea*" was too brief for identification, it is possible that some one out of several Acalephæ inhabiting our seas might have been intended.

It is also possible, however, that a true *Æquorea* had been seen, for there is a most beautiful species of this genus an inhabitant of the Scottish seas. I met with it for the first time in August 1850, when exploring the Minch (the channel between the outer Hebrides and Skye) in company with Mr. MacAndrew and Prof. Goodsir, with the advantages of the appliances for natural-history research with which Mr. MacAndrew has furnished his yacht, the *Naiad*. As there is neither figure nor description of any British *Æquorea* to be found, and as considerable obscurity hangs around the Atlantic species of the genus, I have drawn up the following notice.

A number of individuals were observed: they were swimming near the surface of the sea on a very calm and hot day: they varied in size, from three inches in diameter to as much as half a foot or more: they resembled broad shield-shaped discs of glass, slightly prominent above, incurved at their sides and concave beneath: through the discs were seen shining the pendent brown-tinged stomach, and around it, like so many equal stripes or rays proceeding to the margin, the linear violet genital glands: from the margin depended highly-contractile violet tentacles.

The umbrella is broad, shallow, and disc-shaped, its outline describing a gentle curve. It is hyaline, not very thick, and quite smooth. The central portion of its interior, occupying about one-fourth of its diameter, has dependent from it the membranous veil-like walls of the stomach; these hang not quite so low as on a line with the margins of the umbrella. The stomach, although equal in width throughout, may be divided into two regions, an upper and a lower. The latter has a furbelowed and somewhat scalloped, but not cirrated margin, and may be regarded as the mouth. The former is marked internally by eight bands of transverse fibres, separated by as many longitudinal ones; these appear to be muscular. The whole of the membrane of the stomach and lips is tinged with pale foxy brown, partly disposed in streaks. Around the upper and inner margin of the cavity are the orifices of the gastro-vascular canals; these run, without dividing or anastomosing, to the circular marginal canal of the umbrella. In a specimen five inches across, they were 136 in number. From the lower side of each canal depend two narrow, rather wavy membranes of a violet colour, causing the ray-like streaks that shine so conspicuously through the disc; each of these arises gradually near the superior extremity of a gastro-vascular canal, and ceases abruptly at about one-eighth of the entire length of the canal from the margin: they are the genital glands. At the junction of each alternate gastro-vascular canal with the circular marginal one is the bulb-like base of a marginal tentacle: these tentacles arise from ovate bulbs and gradually taper to a fine point. The bulbs are pale, but the tentacle is tinged with violet. Opposite the intermediate canal there is a smaller bulb with a tentacle, hollow and containing corpuscles in its centre, and on each side, between it and the neighbouring tentacle, is a still smaller lobe-like body. Along the upper margin of the circular canal are very minute pedunculated organs that move to and fro. On the bulb at the base of the tentacula is a minute tongue-shaped process at the base of a depression; at its own base the ocellus or rudimentary eye is lodged. When seen laterally, the peculiar tissue of the base of the tentacles is observed to be set obliquely. Within the umbrella, from a line just opposite the tentacular circle, a short but rather broad veil with a simple edge is seen to depend; this veil is tinged with pale brown. A band of motor tissue, forming a sphincter to the umbrella, accompanies the circular vessel.

According to the size of the example, the number of genital glands and of tentacula varied: they increase with age. The smallest number of tentacula seen was sixteen, and there is reason to believe that they are never fewer.

To ascertain whether this beautiful animal be the *Medusa æquorea* of Linnæus and the naturalists who wrote during his time, it is necessary to inquire into the history of that species. The name just mentioned occurs first in the 'Iter Hispanicum' of Peter Loefling, published in 1758. In his journal of observations on the 18th of April, at Cumana, he notices, along with *Medusa* (i. e. *Aurelia*) *aurita*, *Medusa pelagica* (*Pelagia cyanella*?), and *Velella*, another Medusa, which he styles *Æquorea*, and describes as "*orbicularis, planiuscula, tentaculis plurimis ex margine inflexo, branchiis nullis*." This notice, which occurs at page 105 of the Swedish edition of his 'Travels,' is the entire original foundation for numerous references in after-authors. Linnæus, in the first instance, adopted Loefling's name and brief record, which, when read with our present knowledge of *Acalephæ*, barely indicates the genus to which the animal observed probably belonged. In 1775, the descriptions and figures of animals observed during his journey to the East by the lamented Forskäl were published under the superintendence of Carsten Niebuhr. Among them was a representation and description of a *Medusa*, referred to the *æquorea* of Linnæus, both excellent, as indeed may be said of all that Forskäl did. In 1776 a *Medusa æquorea* was noticed, scarcely more than by name, in the 'Zoologiæ Danicæ Prodromus' of Otho Frederic Müller. In 1780, Otho Fabricius, in his excellent 'Fauna Groenlandica,' gives a shorter account than usual with him of a Medusa, which he refers to the *æquorea* of Linnæus. He speaks of it as a very simple animal, smaller and softer than *Medusa aurita*, convex above, concave beneath, with very much inflected margins and white marginal cilia. The two last-mentioned characters are opposed to the notion of *Medusa æquorea*, as represented and described by Forskäl, and the first of them to the slight idea of its shape that we gather from Loefling. In 1791 Adolph Modeer commenced the work of hair-splitting by separating the animal of Forskäl, under the name of *Medusa patina*, from that of Loefling, for which he reserved the name *Medusa æquorea* In 1809 Peron and Lesueur published in the 'Annales du Muséum d'Histoire Naturelle,' vol. xiv., their important classification and synopsis of all known Medusæ. In that paper, excellent though it be, they increase the confusion, by giving the name of *Æquorea atlantica* to Loefling's animal, *Æq. danica* to Müller's, *Æq. grœnlandica* to that of Fabricius, *Æq. Forskalea* to that of Forskäl, and *Æq. stauroglypha* to a new species of their own, probably identical with all the others. In 1829 Eschscholtz, in his 'System der Acalephen,' attempted to rectify this confusion, by rejecting all these names excepting *Æq. Forskalina,* that alone having been sufficiently described. In 1843 Lesson published his History of Acalephæ in the 'Nouvelles Suites à Buffon,' and, to make confusion worse confounded, rejected all rectifications and restored all the names and imperfectly noticed individuals to full specific rank.

After attentively considering the notices more or less perfect that the various older observers have given, of what they call *Medusa æquorea,* I am led to the belief that in most instances one species, not several, was met with, and that the creature I now describe and figure as British is identical with the *Medusa æquorea* of Loefling, Forskäl and Müller. Since Forskäl alone described and figured it in a comprehensible manner, the name *Æquorea Forskalea,* proposed by Peron, is peculiarly appropriate; the more so since that of *Medusa patina* of Modeer was proposed under a mistake. Forskäl expressly states that his species is common to the North Atlantic and the Mediterranean, and that it inhabits the Danish seas, where it is called "Vandmand," that is, Waterman.

It remains to be seen whether our species is related to the *Æquorea violacea* of Milne-Edwards, well described and beautifully figured in the 16th volume of the 2nd series of the 'Annales des Sciences Naturelles,' and observed by that eminent naturalist in the Mediterranean. From an examination of its anatomy he first showed the serious error committed by Eschscholtz in considering the *Æquoridæ* as cryptocarpous. I am inclined to agree with Milne-Edwards in considering his species distinct from that of Forskäl. The genital glands are not prolonged nearly so close to the margin; the lips of the stomach are not furbelowed; the bases of the tentacles are not bulbous, and originate regularly *between* the gastro-vascular canals.

There were no eyes observed by the distinguished zoologist just quoted in the species he examined. In ours the eyes are evident, and a determination of their position and appearance is of consequence, since they confirm the affinity of *Æquorea* with the Naked-eyed Medusæ, whilst at the same time, in the little appendage or rudimentary lid projecting above them, they indicate an approach to the *Steganophthalmatous* type, such as is consistent with the general high organization and aspect of the *Æquorea* when compared with other *Gymnophthalmatous* forms.

It is interesting to remark that the *Æquorea ciliata* of Eschscholtz is a North Pacific species, beautifully representing, yet quite distinct from, *Æquorea Forskalea*.

2. Descriptions of new species of Eulima, Triphoris, etc., from the Collection of Hugh Cuming, Esq.

By Arthur Adams, F.L.S. etc.

1. **Eulima modicella**, A. Adams. *E. testâ subulato-pyramidali, albâ, subpellucidâ, flexuosâ; anfractibus* 11, *planulatis, varicibus lateralibus continuis impressis, instructis; anfractu ultimo, in medio, vix angulato; aperturâ ovali; columellâ anticè subrectâ; labro anticè producto.*

Hab. Island of Zebu, sandy mud, 7 fathoms. Mus. Cuming.

2. **Eulima grandis**, A. Adams. *E. testâ subulato-pyramidali, albâ, solidâ, flexuosâ, opacâ; anfractibus* 15, *planulatis, varicibus lateribus continuis instructis; anfractu ultimo angulato; aperturâ obliquâ, oblongo-ovali, labio anticè calloso; labro margine flexuoso, anticè subreflexo.*

Hab. Island of Burias, coral sand, 7 fathoms. Mus. Cuming.

3. **Eulima porcellana**, A. Adams. *E. testâ subulatâ, albâ, solidâ, opacâ, apice subflexuoso; anfractibus* 13–14, *planulatis, varicibus impressis irregularibus lateralibus; aperturâ oblongo-ovali, labio anticè calloso, vix reflexo; labro margine, in medio, dilatato.*

Hab. ——? Mus. Cuming.

4. **Eulima acuta**, A. Adams. *E. testâ aciculato-turritâ, albidâ, rectâ, subopacâ; anfractibus duodecim, planiusculis, ultimo rotundato; aperturâ oblongâ, anticè subreflexâ, labio subincrassato labro margine recto.*

Hab. Sual, province of Cangisanan, island of Luzon, sandy mud, 7 fathoms. Mus. Cuming.

5. **Eulima cuspidata**, A. Adams. *E. testâ subulato-pyramidali, albidâ, solidâ, rectâ; anfractibus* 12, *convexiusculis, anfractu ultimo rotundato; aperturâ oblongo-ovali, labio anticè calloso, subrecto; labro acuto.*

Hab. Sibonga, island of Zebu, in loose coral under stones, low water. Mus. Cuming.

6. **Eulima obesula**, A. Adams. *E. testâ pyramidali-ovatâ, albâ, solidâ, nitidâ, opacâ; anfractibus sex, convexis, ultimo rotundato; aperturâ oblongo-ovali; labro margine incrassato, nec limbato vel reflexo.*

Hab. Gindulman, isle of Bohol, in soft mud, 8 fathoms. Mus. Cuming.

7. **Eulima teinostoma**, A. Adams. *E. testâ subulato-turritâ, rectâ, albidâ, nitidâ, subpellucidâ; anfractibus* 12, *planulatis, lineâ impressâ infra suturas; anfractu ultimo rotundato; aperturâ oblongo-ovali, anticè producto, labio subrecto, anticè reflexo; labro margine, in medio, dilatato.*

Hab. Feejee Islands, on coral reefs, in sand, low water. Mus. Cuming.

8. EULIMA FLEXUOSA, A. Adams. *E. testâ subulato-turritâ, albâ, flexuosâ, solidâ, subopacâ; anfractibus* 15, *planulatis, lineâ impressâ subpellucidâ ad suturas; anfractu ultimo rotundato; aperturâ oblongâ; labro margine flexuoso, in medio producto.*

Hab. ——? Mus. Cuming.

9. EULIMA ACLIS, A. Adams. *E. testâ subulato-turritâ, albidâ, solidâ, subopacâ; anfractibus* 11, *planulatis, ultimo rotundato, anticè subproducto; aperturâ oblongâ, labio anticè subreflexo.*

Hab. Singapore, coarse gravel and sand, 12 fathoms. Mus. Cuming.

10. EULIMA PYRAMIDALIS, A. Adams. *E. testâ subulato-pyramidali, albâ, nitidâ, subpellucidâ; anfractibus decem, planulatis, lineâ impressâ prope suturas, anfractu ultimo subangulato; aperturâ oblongo-ovali; labro margine, in medio, subproducto.*

Hab. Isle of Capul, on the reefs in sand, low water. Mus. Cuming.

11. EULIMA POLYGYRA, A. Adams. *E. testâ subulato-pyramidali, albâ, subopacâ, apice tortuoso; anfractibus permultis, planulatis, ultimo angulato; aperturâ obliquâ, subtetragonali, labio anticè reflexo; labro, in medio, valdè dilatato.*

Hab. Cagayan, province of Misamis, isle of Mindanao, sandy mud, 50 fathoms. Mus. Cuming.

12. EULIMA VITREA, A. Adams. *E. testâ subulatâ, acutâ, rectâ, albidâ, vitreâ, pellucidâ; anfractibus planulatis, lineâ impressâ prope suturas; anfractu ultimo rotundato; aperturâ oblongo-ovali, labio anticè recto, in medio subtortuoso; labro anticè subreflexo.*

Hab. Feejee Islands; from the stomach of a *Holothuria* (*Captain Swain*). Mus. Cuming.

13. EULIMA GUILDINGII, A. Adams. *E. testâ subulatâ, rectâ, nitidissimâ, albâ, pellucidâ; anfractibus planulatis, ultimo subrotundato, elongato; aperturâ oblongo-ovali, labio vix tortuoso; labro margine flexuoso.*

Hab. St. Vincents, West Indies, sandy mud, deep water. (*Rev. L. Guilding.*) Mus. Cuming.

14. EULIMA CUMINGII, A. Adams. *E. testâ subulato-turritâ, albâ, rectâ, solidâ, opacâ; anfractibus* 13, *convexiusculis, varicibus irregularibus impressis instructis; anfractu ultimo rotundato; aperturâ oblongo-ovali, labio anticè calloso, incrassato; labro margine recto.*

Hab. Lord Hood's Island, South Seas, on the *Avicula margaritifera*. Mus. Cuming.

15. TRIPHORIS VARIEGATUS, A. Adams. *T. testâ subulato-pyramidali, in medio tumidâ, albâ, maculis triangularibus rufo-fuscis variegatâ; anfractibus planulatis, triseriatim granulatis, granis æqualibus, interstitiis punctatis, suturis impressis; canali brevi, apertâ.*

Hab. St. John's. Mus. Cuming.

A large variegated species, somewhat resembling in general appearance *T. ornatus*, Desh.

16. **Triphoris pulchellus**, A. Adams. *T. testâ subulato-pyramidali, in medio tumidâ, fuscâ, serie moniliformi albo ornatâ; anfractibus convexiusculis, triseriatim granuloso-carinatis, granorum serie inferiore prominulâ, superiore multo minore; aperturâ rotundatâ, constrictâ; canali brevi, recurvo.*

Hab. ——? Mus. Cuming.

A handsome brown species, with a white series of bead-like granules at the lower part of each whorl.

17. **Triphoris nigro-fuscus**, A. Adams. *T. testâ pyramidali, nigro-fuscâ; anfractibus planis, triseriatim granulatis, granulis æqualibus, confertis, anfractuum suturis impressis, basi convexâ.*

Hab. Sydney, low water, under stones (*Mr. Strange*).

A black-brown species, with three rows of regular, equal-sized granules on each whorl. Mus. Cuming.

18. **Triphoris festivus**, A. Adams. *T. testâ pyramidali, basi planâ fuscâ, albidâ, fasciis fuscis interruptis, transversis, ornatâ; anfractibus planis, cingulis duabus granorum instructis; interstitiis valde punctatis.*

Hab. Port Lincoln. Mus. Cuming.

A small prettily-marked species, with two rows of granules on each whorl, and the interstices deeply punctured.

19. **Triphoris scitulus**, A. Adams. *T. testâ subulato-pyramidali, albidâ, nitidâ, subpellucidâ, suturis rufo-tinctis; anfractibus convexiusculis, cingulis tribus nodorum ornatis, cingulâ medianâ majore moniliformi, nodorum interstitiis fuscis; anfractu ultimo basi fusco; canali brevi, aperto.*

Hab. Port Lincoln. Mus. Cuming.

A semipellucid, white and brown species, with the middle row of nodules very prominent.

20. **Triphoris albidus**, A. Adams. *T. testâ subulato-pyramidali, albidâ, nitidâ; anfractibus planulatis, subimbricatis, granoso-clathratis, granis oblongis, serie granorum inferiore prominulâ, anfractu ultimo basi fulvo; canali brevi, subrecurvo.*

Hab. Honduras (*Dyson*). Mus. Cuming.

A solid, white, shining, pyramidal species, with oblong granules disposed in three series on each whorl.

21. **Triphoris vestalis**, A. Adams. *T. testâ turrito-subulatâ, dextrorsâ, albâ, subnitidâ; anfractibus* 13, *convexis, suturis impressis, triseriatim granulatis, interstitiis alveolatis.*

Hab. Honduras. Mus. Cuming.

A delicate and chaste right-handed species, with convex whorls, and pits between the granules.

22. TRIPHORIS CINGULATUS, A. Adams. *T. testâ elongato-pyramidali, cinereâ; anfractibus sexdecim ad octodecim, spiraliter tricingulatis, cingulâ medianâ minore, interstitiis carinarum longitudinaliter valde striatis.*

Hab. Red Sea (*Rüppell*). Mus. Cuming.

An ashy-grey species, with three smooth keels on each whorl, and the interstices strongly striated: somewhat similar to the *T. corrugatus* of Hinds.

23. TRIPHORIS LABIATUS, A. Adams. *T. testâ subulato-pyramidali, nigro-fuscâ, in medio tumidâ, spirâ apice obtuso; anfractibus* 10, *planulatis, triseriatim granuloso-carinatis, suturis concavo-impressis; labro reflexo, dilatato, albido; canali brevi, subrecurvo.*

Hab. Sydney, under stones, low water (*Mr. Strange*). Mus. Cuming.

A small, nearly black shell, with the outer lip dirty white or pale fuscous.

24. MESALIA STRIATA, A. Adams. *M. testâ subulato-turritâ, fulvâ; anfractibus* 10–12, *planulatis, superioribus longitudinaliter plicatis, inferioribus lævibus, transversim striatis, striis impressis, subdistantibus; anfractu ultimo subangulato; aperturâ ovali, labio subplanulato, anticè subreflexo; labro acuto, integro.*

Hab. Philippines. Mus. Cuming.

25. MESALIA DECUSSATA, A. Adams. *M. testâ subulato-turritâ, in medio subcylindraceâ, pallidè rubro-fuscâ; anfractibus novem, convexiusculis, plicis longitudinalibus confertis, et sulcis impressis, transversis, decussatim ornatis; aperturâ semiovali, labio subcalloso, anticè subreflexo, integro; labro incrassato, margine integro.*

Hab. Masbate, Philippines. Mus. Cuming.

26. RISSOINA SEMIGLABRATA, A. Adams. *R. testâ subulato-pyramidali, albâ, solidâ, nitidâ; anfractibus convexiusculis, supremis transversim striatis, inferioribus glabratis; aperturâ semiovali, anticè subcanaliculatâ, labio incrassato; labro dilatato, crasso, intus tuberculis parvis instructo, margine subreflexo.*

Hab. Deleguete, isle of Zebu, found under stones, low water. Mus. Cuming.

A species having very much the aspect of a *Eulima*. In this species there are two tubercles on the inner surface of the outer lip.

27. RISSOINA EULIMOIDES, A. Adams. *R. testâ subulato-pyramidali, albâ, solidâ, nitidâ; anfractibus planiusculis, suturis impressis; aperturâ semiovali, anticè subcanaliculatâ, labio lævigato, subincrassato; labro margine crasso, in medio dilatato, intus tuberculo minuto instructo.*

Hab. Island of Capul, on coral reefs in sand, at low water. Mus. Cuming.

A small polished Eulima-like species, with a single small tubercle on the inner surface of the outer lip.

December 9, 1851.

W. Yarrell, Esq., in the Chair.

The following papers were read:—

1. On some Bones of Didus. By A. D. Bartlett.

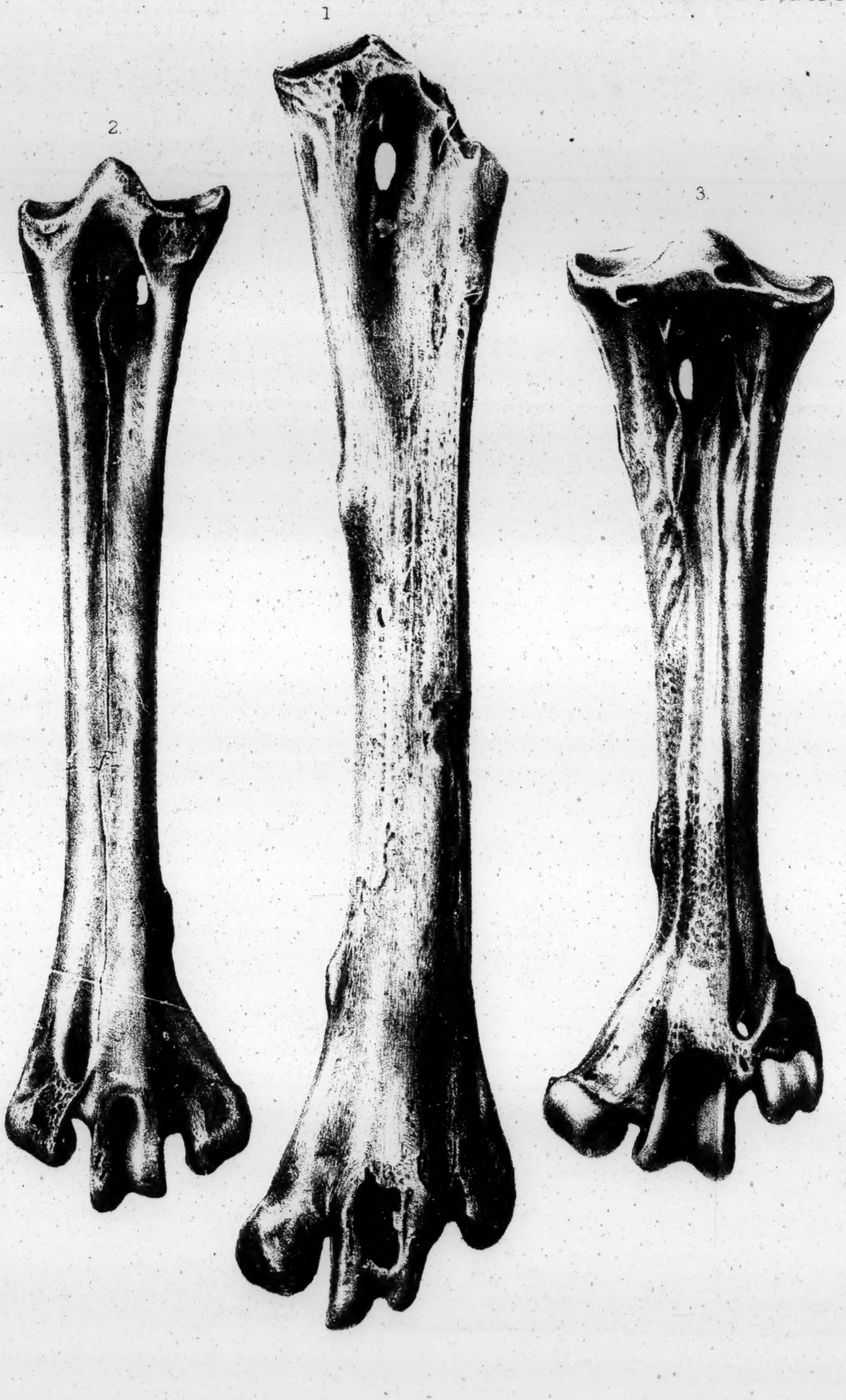
(Aves, Pl. XLV.)

The history of the Dodo having been recently the subject of so much inquiry, and the exertions made by Mr. Strickland, Dr. Melville and others, having succeeded in bringing together so many important facts, it might appear that there was little more to be said upon the subject; this, however, I believe is far from being the case. A few facts established upon a subject which was before obscured in doubt and error will, I trust, always act as a charm, and induce us at every opportunity to investigate that subject still further, in the hope of learning the truth. On the present occasion I am desirous of calling attention to a few bones upon the table. In so doing I beg to say, that in the year 1830 a collection of bones arrived in Paris, which attracted the attention of the scientific world. These bones came from the island of Rodriguez, but on account of their being incrusted with stalagmite, little has been done with them; they were, however, the cause of search being made for more in the same locality, and two collections were made in the year 1831 by the late Mr. Telfair. One of these collections was forwarded to the Andersonian Museum in Glasgow, the other to the collection of this Society, and at the evening meeting, March 12, 1833, the bones sent by Mr. Telfair were laid upon the table.

I will here read an extract from the Society's Proceedings:—"Dr. Grant pointed out that they were the bones of the hinder extremity of a large bird, and the head of a humerus. With reference to the metatarsal bone, which was long and strong, Dr. Grant pointed out that it possessed the articulating surfaces for four toes, three directed forwards and one backwards, as in the foot of the Dodo preserved in the British Museum, to which it was also proportioned in magnitude and form."

I beg now to read a paragraph from Mr. Strickland's book. At page 52 we find: "The bones sent by Mr. Telfair in 1833 to the Zoological Society have met with some unfortunate fate. Three or four years ago, Mr. Fraser, the late Curator of that Society, made, at my request, a diligent search for these specimens, but all his endeavours to find them were fruitless: he found the identical box sent by Mr. Telfair, but, alas! the bones of the Solitaire, apterous as it was, had flown away, and the only bones that remained belonged to tortoises."

In the month of July last an opportunity was afforded me by the Secretary of renewing this search, and I had the good fortune to



Metatarsal bone of Didus Nazarenus. 2 of Didus solitarius. 3 of Didus ineptus.

C. H. Ford Lith.
Ford & West Imp.

FIUME

find what I believe to be all the specimens sent to the Society by Mr. Telfair.

Upon my informing Mr. Mitchell of my success, that gentleman, knowing the trouble and interest I had taken to recover them, granted me permission to examine, compare, and describe them, and to bring the subject before the Society.

In the first place, we are led to believe (and I think without the slightest doubt) that these bones came originally from the island of Rodriguez. There cannot be any doubt, also, that Rodriguez and the neighbouring islands were at one period inhabited by several species of large birds. Whether any of the same species of these birds inhabited different islands, or whether each island was inhabited by distinct species, is a question to which I beg most particularly to call your attention: the most recent publication by Mr. Strickland and Dr. Melville would lead us to believe that the true Dodo (*Didus ineptus*) was solely confined to the island of Mauritius, and another species, known as the Solitaire, was said to be its representative on the island of Rodriguez. If this be true, I should have the pleasure of introducing to your notice the bones of at least two new species of birds from that island: I do not however myself feel justified in so doing, but believe some of the bones sent here by Mr. Telfair belong to the true Dodo (*Didus ineptus*). There are also in the collection (I think without doubt) bones of two other species, one of these of much larger size than the Dodo, the other considerably smaller. The bones in question having all the usual and well-known characteristics of those of adult birds, we cannot therefore suppose the differences which they present to be such as might arise from age; and on the other hand, you will perceive that the proportions are too dissimilar to allow of our regarding them as having belonged to different sexes of the same species. There often exists great difference of size in the bones of the opposite sex, but I have never noticed any very evident difference of proportion. These are to me satisfactory reasons for considering them specifically distinct. But to return to the question,—Was the Dodo found on the island of Rodriguez? Sir Thomas Herbert says *it was*; and his evidence appears to me of much importance, considering the number of years he spent travelling about, visiting these islands, and collecting rare and curious things; having also repeatedly described the Dodo, and very probably brought one to England. I am therefore inclined to regard the assertions made by Sir Thomas Herbert with more respect than they have elsewhere received. It may appear at first sight impossible that the same species of birds which were destitute of the power of *swimming* or *flying* could inhabit islands so far from each other; but, were these islands always in the state in which we find them? may they not at some distant period have been united and formed part of the same land? In endeavouring in this manner to account for the existence of the Dodo upon the island of Rodriguez as well as at Mauritius, it has been remarked that this argument would not hold good, as the islands in question were of volcanic origin: if this be the case, to account for its existence at either place appears to me equally difficult. I am fully aware it has been the practice of late to consider the animals obtained from localities remote from each other specifically distinct; they may be so; but unless we have some certain means of distinguishing them, I do not think we ought to regard them as such.

I now venture to introduce to your notice what I believe to be the *tibia* of the Dodo (*Didus ineptus*): its agreement with the foot in the British Museum struck me as being exceedingly remarkable and conclusive: its size and proportions, as compared with the metatarsal in question, are exactly what I should have expected upon the supposition of their belonging to the same species: they fit each other so perfectly, that one might think they belonged to the same individual. With this evidence before me, I cannot for one moment hesitate in considering the *Dodo of the Mauritius to be identical with the Dodo of Rodriguez*. There are also in this collection two other bones, which, from their size and form, I believe to belong to this species: the most remarkable is the head of the *humerus*, which would indicate by its magnitude and broad attachments that it belonged to a bird of large bulk, while the sudden reduction in the size of its shaft clearly indicates a bird with small wings. The great thickness and consequent weight is sufficient to cause us to suppose that this bird had not the power of flight.

The next bone to which I will call your attention is a right metatarsal, which appears to me to have belonged to a bird known to Leguat as the Solitaire, and described by him during his residence on the island of Rodriguez. I beg to read Leguat's description, in order to point out to you its near agreement in point of size and form with the Turkey, with which bird Leguat compared the bird he called the Solitaire:—

"Of all the birds in the island, the most remarkable is that which goes by the name of the *Solitary*, because it is very seldom seen in company, though there are abundance of them. The feathers of the male are of a brown-grey colour: the feet and beak are like a Turkey's, but a little more crooked. They have scarce any tail, but their hind part covered with feathers is roundish, like the crupper of a Horse; they are taller than Turkeys. Their neck is straight, and a little longer in proportion than a Turkey's when it lifts up its head. Its eye is black and lively, and its head without comb or cop. They never fly, their wings are too little to support the weight of their bodies; they serve only to beat themselves, and flutter when they call one another. They will whirl about for twenty or thirty times together on the same side, during the space of four or five minutes. The motion of their wings makes then a noise very like that of a rattle, and one may hear it two hundred paces off. The bone of their wing grows greater towards the extremity, and forms a little round mass under the feathers, as big as a musket-ball. That and its beak are the chief defence of this bird. 'Tis very hard to catch it in the woods, but easie in open places, because we run faster than they, and sometimes we approach them without much trouble. From March to September they are extremely fat, and taste admirably well, especially while they are young; some of the males weigh forty-five pounds.

"The females are wonderfully beautiful, some fair, some brown; I call them fair, because they are of the colour of fair hair. They have a sort of peak, like a widow's, upon their breasts (*lege* beaks), which is of a dun colour. No one feather is straggling from the other all over their bodies, they being very careful to adjust themselves, and make them all even with their beaks. The feathers on their thighs are round like shells at the end, and being there very thick have an agreeable effect. They have two risings on their *craws*, and the feathers are whiter there than the rest, which livelily represents the fine neck of a beautiful woman. They walk with so much stateliness and good grace, that one cannot help admiring and loving them; by which means their fine mien often saves their lives."—*Leguat's Voyage to the East Indies,* 1708, p. 71.

You will perceive this bird was said to be larger and taller than a Turkey. A comparison of this metatarsal bone with the metatarsal bone of the Turkey I think will satisfactorily show the accuracy of Leguat's description, and at the same time justify our conclusion that this metatarsal bone belonged to the Solitaire of Rodriguez, to which the name of *Didus solitarius* has been applied. I trust I shall be pardoned for avoiding the use of the new generic term adopted by the authors of 'The Dodo and its kindred,' for in a group so little known, and at present so limited in species, it seems to me so much to increase the trouble and difficulty of those who endeavour to study such subjects, that I cannot help expressing my belief that many of the new names so often introduced serve only to impede and embarrass us, and I therefore regard them as much worse than useless.

I have now remaining the bone of a bird which when alive was much *larger*, *heavier*, and more *powerful* than the *Dodo*. For further examples of this bird's bones, I must refer to the plates in the work before alluded to, by Mr. Strickland and Dr. Melville: plate xv. fig. 2, the metatarsal bone of the large species in the Andersonian Museum, Glasgow; fig. 3, a metatarsal bone in the Parisian collection. A glance at these specimens will, I imagine, convince any one that this bird was of gigantic size, and probably double the weight of the *Dodo*. I am sure it cannot be supposed (after what has been said) that Leguat was describing this great bird when he wrote his beautiful description of the Solitaire. Another important fact will, I think, set this question at rest. Leguat states, that some of the males of the Solitaire weigh *forty-five pounds*. Now we know the weight of the largest Turkeys to be considerably less, rarely reaching *thirty pounds*, while the weight of the Dodo is stated to have been at least *fifty pounds*. It cannot, therefore, be supposed, had Leguat seen birds nearly double the size of the Dodo, he could have made the statements or comparison he has made between the Solitaire and Turkey.

I have before expressed my great dislike to an unnecessary increase of names: I feel, however, the necessity of finding an appropriate name for this large bird, and therefore propose one somewhat familiar to all who have paid any attention to the subject, and apply the name of *Didus Nazarenus* to this the largest species of the genus. In doing this, I may remark that Mr. Strickland, in his work before alluded to, has considered the *Didus Nazarenus* to be a phantom species, which he says has haunted our systems of ornithology from the days of Gmelin downwards.

The conclusions which I have arrived at from the examination of the bones to which I have just called your attention are these:—That there existed formerly three distinct species of Apterous birds in the island of Rodriguez; namely, one which is apparently identical with the *Dodo* (*Didus ineptus*) of the Mauritius; a second, which was well described under the name of *Solitaire*; and a third, which was much larger than either of the above.

12 College Street, Camden Town.

2. Description of two new species of Mammalia of the genus Antechinus. By John Gould, F.R.S. etc.

One of these species is remarkable for being spotted on the under instead of on the upper surface, and the other for its very diminutive size: both rank among the smallest members of the genus. For the former I propose the specific appellation of *maculatus*; it may be thus described:—

Antechinus maculatus.

Fur short, dense, and closely applied to the skin; general tint of the upper surface dark blackish brown, minutely grizzled with yellowish brown; lower part of the flanks and under surface of the body dark brownish slate-grey, ornamented with oblong spots of greyish white arranged in irregular rows in the direction of the body; down the centre of the throat a streak of white.

	inches.
Length from the tip of the nose to the base of the tail	$3\frac{1}{2}$
——— of the tail	$2\frac{1}{4}$
——— from the tip of the nose to the base of the ear	$\frac{1}{2}$
——— of the ear	$\frac{1}{4}$
——— of the tarsi and toes	$\frac{7}{16}$

Hab. Brushes of the river Clarence, on the east coast of Australia.

The other species I propose to name

Antechinus minutissimus.

Fur short, dense, and closely applied to the skin; upper surface and flanks brown, slightly grizzled with black; under surface pale buff, approaching to white on the throat; tail brown above, lighter beneath; feet buffy brown, toes covered with hairs of a somewhat lighter hue.

	inches.
Length from the tip of the nose to the base of the tail	$2\frac{3}{4}$
——— of the tail	$2\frac{1}{4}$
——— from the tip of the nose to the base of the ear	$\frac{7}{16}$
——— of the ear	$\frac{1}{4}$
——— of the tarsi and toes	$\frac{3}{8}$

Hab. Brushes of the east coasts of Australia.

3. DESCRIPTIONS OF A NEW SPECIES OF PTILOTIS AND A NEW SPECIES OF EÖPSALTRIA. BY JOHN GOULD, F.R.S.

Mr. Gould also exhibited two new species of birds of the genera *Ptilotis* and *Eöpsaltria*, which he characterized as follows:—

PTILOTIS FASCIOGULARIS.

All the upper surface, wings and tail olive-brown, the feathers of the head and back with darker centres, and the primaries and tail-feathers narrowly margined externally with greenish wax-yellow; lores and a streak down the side of the head from the posterior angle of the eye blackish brown; ear-coverts pale yellow; on each side of the neck a patch of yellowish white; feathers of the throat brownish black, each bordered with pale yellow, presenting a fasciated appearance; breast blackish brown; under surface striated with brown and buffy, becoming paler towards the vent; irides lead-colour; bill and feet black.

Total length, $7\frac{1}{2}$ inches; bill, $\frac{7}{8}$; wing, $3\frac{3}{4}$; tail, $3\frac{1}{2}$; tarsi, $1\frac{1}{8}$.

Hab. Mangrove Island, Moreton Bay.

Female.—Similar in colour, but of smaller size.

EÖPSALTRIA CAPITO.

Upper surface olive-green, inclining to brown on the head; wings and tail slaty brown, faintly margined with olive-green; ear-coverts grey; lores and a line descending in front of the eye and the throat greyish white; under surface yellow; irides hazel; bill black; feet brownish flesh-colour.

Total length, 5 inches; bill, $\frac{5}{8}$; wing, $3\frac{1}{8}$; tail, $2\frac{1}{4}$; tarsi, $\frac{7}{8}$.

Hab. Brushes of the River Brisbane, New South Wales.

Remarks.—Shorter and less elegantly formed than *E. Australis*, with a stout broad bill and a proportionately large and heavy head.

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„ „ *for* VANGANELLA TAYLORII *read* RESANIA TAYLORII.
Page 183, line 38, *for* CHLOROSTOMA TURBINATUM *read* C. FUSCUM.

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